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JOURNAL

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OF THE

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STATISTICAL SOCIETY.

(Founded 1834.)

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VOL. LVIII.—YEAR 1895.

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1895.

ERRATUM.

Page 502. Table IV. Public Debt of France. The figures for the *floating debt* only, instead of the *whole debt*, have been given for 1882 and 1892. The total debt should therefore read—

1892......	£1,042,393	instead of	£38,302
'82......	953,192	,,	93,473
	+ 89,201	,,	– 55,171

The statement on page 491 (lines 4—7) should be amended accordingly.

NOTICE.

The Council of the Royal Statistical Society wish it to be understood, that, while they consider it their duty to adopt every means within their power to test the facts inserted in this *Journal*, they do not hold themselves responsible for their accuracy, which must rest upon the authority of the several Contributors.

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Vol. LVIII.] [Part I.

JOURNAL
OF THE ROYAL STATISTICAL SOCIETY,

MARCH, 1895.

ALIEN IMMIGRATION.[1] *By* GEOFFREY DRAGE, ESQ.

[Read before the Royal Statistical Society, 18th December, 1894.
SIR JULAND DANVERS, K.C.S.I., in the Chair.]

I HAVE elsewhere called attention to the transitional state of party politics in England, and to the fact that we are making our way to a new dividing line in politics, namely, that between socialism and individualism, between State interference and self-reliance, between law and liberty. In any case changes of circumstances are likely to bring about such changes of attitude as long as the system of party government exists, but the course of transition is not likely to be easy, nor are the combatants at such a period likely to be always clear as to the principles at stake in these efforts. At the present time bimetallism and the State regulation of the relation between gold and silver is inscribed on the banner of some Conservatives, as well as such measures as compulsory insurance against accidents, and State pensions for the aged poor; while there are still Liberals to be found who shake their heads at the idea of the creation of a ministry of education to dictate to the universities and public schools of the country, and others who still believe in freedom of contract, and the development of thrift and self help in the various forms of individual and associative effort.

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[1] Authorities consulted in the preparation of the paper:—
I. The author's "Reports to the Labour Commission on the Labour Question in Foreign Countries." Vol. i, United States; vol. ii, The Colonies and India, with an Appendix on the Migration of Labour; vol. iii, Holland; vol. iv, Belgium; vol. v, Germany; vol. vi, France; vol. vii, Switzerland; vol. viii, Italy; vol. ix, Sweden, Norway, Denmark, Spain, and Portugal; vol. x, Russia; vol. xi, Austria, Hungary, and the Balkan States, and the works therein referred to.
II. M. Levasseur's "La Population Française."
III. Herr von Mayr's "Allgemeines Statistisches Archiv."
IV. "Annuario Statistico Italiano."
V. "Annuaire Statistique de la Belgique."
VI. "The Industries of Russia" (volumes prepared by the Russian Government for the Exhibition at Chicago).
VII. "Social-politisches Centralblatt."
VIII. "Alien Immigration. Reports to the Board of Trade by Mr. Schloss and Mr. Burnett." [C–7113.]
IX. "Reports on the Volume and Effects of Recent Immigration from Eastern Europe into the United Kingdom." Board of Trade. [C–7406.]

It is not then surprising that when the question of alien immigration is raised, the positions taken up by the two parties should be at first sight at variance with the political principles they are likely to adopt, and more in keeping with their immediate political past. The manner in which the question was raised and treated in the House of Lords, and the manner in which it was subsequently dealt with at the Trades Union Congress at Norwich, are notable signs of the times. In any case the question is one which involves not only the interests of the country, but in a more or less serious manner the interests of the whole civilised world. It may therefore be worth while at this point to take a somewhat wider survey of the matter.

The result of such a survey will, I think, suggest that in this as in other matters connected with the labour question, England can still safely adopt at home that liberal policy of leaving her doors open to those who desire to enter and those who desire to leave her, which has so materially contributed to her greatness in the past. Economically the alien appears likely to do us good; politically, thanks to the common sense of our working men, he appears unable to do us harm. But in our colonies and our Indian Empire the problem takes a different form, which requires a different answer; while to foreign, and especially to European countries, difficulties are hereby raised which, though easy of solution to us, are to them becoming both politically and economically matters of life and death.

Lord Salisbury on a former occasion advocated the use of large maps of individual countries: in some branches of the labour question it seems necessary to have before one large maps, statistical as well as political, of the whole globe. The alien immigration into England is in fact only a part of the migration of population throughout the world, and the future distribution of that population will determine not only the economic, but also the political questions of the twentieth century.

Let us then first take a brief glance at the distribution of the earth's inhabitants, and the movement, which has hitherto been one from east to west.

The graphic representations contained in M. Levasseur's marvellous work on "La Population Française" show clearly that the mean population of the most thickly populated continent, the continent of Europe, is 33 inhabitants to the square kilomètre and that this proportion is only exceeded in India, Japan, China proper and the Indo-Chinese peninsula, Java, Egypt, and the north-eastern district of the United States. According to M. Levasseur's figures, actual and estimated, the continent of Europe and the Indian and Chinese Empires together contain very nearly three-fourths of the total population of the world. And as the European races, the Chinese, and the Indians constitute the world's emigrant force, the bearing of this fact upon the labour question is apparent. Competition between European and non-European immigrant labour is already a vital question in America and Australia, and unless the different streams diverge from their present course the problem appears likely to become more and more complicated. Within the continent of Europe itself density of population varies greatly from country to country. Belgium, England, Holland, Italy, and the German Empire are far ahead of other countries. Russia and the Scandinavian peninsula on the other hand are a long way behind.

A map, by which M. Levasseur illustrates the distribution of population in Europe, brings out clearly the importance, from an industrial point of view, of the thickly populated central zone, extending from Brittany in the west, to Galician Poland in the east, and branching off in the north to include the United Kingdom, and in the south Italy and Sicily. But to appreciate the full significance of this pictorial representation of the conditions of population from 1880 to 1885, it is also necessary to take into account the changes which are likely to be effected by the two main influences determining density of population: the rate of natural increase, and the artificial gain or loss occasioned by migration.

It does not by any means appear that countries showing the relatively greatest number of inhabitants are countries in which the natural increase of population is most rapid. According to a table drawn up by the English Registrar-General, the excess of births over deaths between 1861 and 1880 in the chief European countries, arranged in descending order, was as follows:—

Norway	13·9	per 1,000 inhabitants
England	13·4	"
German empire	12·3	"
Sweden	11·7	"
Holland	11·6	"
Denmark	11·5	"
Spain	9·6	"
Belgium	9·0	"
Austria	8·6	"
Italy	7·1	"
Switzerland	7·0	"
Hungary	4·1	"
France	2·3	"

Russia is not included, but the total increase, natural and artificial, of the population of European Russia, excluding Poland, between 1861 and 1883, is given by M. Levasseur as 12·9 per 1,000 inhabitants, 18·4 for the Polish provinces, and 8·9 for Finland. Since immigration into Russia may for all practical purposes be neglected, this great increase can be assigned almost entirely to natural causes, and is the more remarkable in view of the mortality due to famine and to epidemics. Provided therefore that the present rate of increase is maintained, and that no circumstances intervene likely to induce emigration on an extensive scale, the thickly peopled countries of the future will be Poland, Russia, Scandinavia, Germany, and such lesser Teutonic countries as Holland and Denmark. France, on the other hand, with a rate of natural increase of less than 2½ per 1,000, must inevitably fall far below the comparatively high place which she now occupies, and unless her population is largely recruited by immigration, she bids fair to become one of the most thinly peopled of European countries. The enormous growth of population in Russia and Servia, England and Greece, and the large increase in Holland, Germany, Belgium, Denmark, Scotland, and Portugal, afford a striking contrast to the small advance made by Italy, Hungary, and Spain, and the minute increase in France.

The figures given above for actual average annual increase per 1,000 can in some cases be supplemented by the results of the most recent census returns. Taking the increase per cent. for the ten previous years as equivalent to the annual increase per 1,000, the Dutch census of 1889 shows an increase of 12·42, the Hungarian census of 1890 an increase of 10·8, and the Austrian, German, Belgian, and Servian censuses of the same year increases of 7·6, 8·85, 9·95, and 14·22 respectively. The Italian census of 1891 shows a gain of 6·63, but the French census of the same year one of only a little over 0·5. In Russia, where it is difficult to get accurate figures, the increase for the eight years 1885 to 1893 has apparently been about 11·71 per cent., giving an average annual increase per 1,000 of 14·6. Consequently whilst the increase of the former period 1861-83 has heen maintained in Germany, Austria, and Belgium, and surpassed in Holland, Servia, Italy, and Russia, it has diminished in France by as much as 75 per cent. Any comprehensive inquiry into the causes which retard the growth of population would be beyond the limits of this paper, but it may be noted in passing that the high standard of comfort, and the consequent determination to impose voluntary restrictions upon population, which is such a marked feature of contemporary France, repeats itself to some extent amongst the better class population of the United States. It may at the same time be pointed out that this desire to maintain a high level of material prosperity is not without serious danger to the industrial strength of a nation, and that where, as in both the countries instanced, the struggle has to be maintained in face of a constant stream of immigration, the effect upon the population becomes distinctly prejudicial. If carried to extremes it cannot but subvert the very ends for which it was undertaken.

It is in fact almost impossible to escape from the conclusion that countries of stationary or but slightly increasing population are simply making room within their borders for the great flood of emigrants, which countries of rapidly increasing population and few facilities for colonial expansion are at all times ready to pour into the vacant spaces. How vast this emigrant force has become has been already indicated. Assuming that the birth-rate given up to 1880 may be taken as fairly constant, the natural increase can be compared with the actual increase: it will then appear from the figures and diagrams that in countries sending out large bodies of emigrants, such as Germany, Italy, Austria, Norway, and Sweden, this actual increase falls below the natural increase to a very considerable extent. Taking the latest statistics derived from the census returns, and comparing them with the excess of births over deaths, it is clear that the natural increase of population in Germany is 12·3 per 1,000, whilst the actual increase is only 8·85. In Austria again the actual increase is 1 per 1,000 less than would be anticipated from the birth-rate, and in Italy it is at any rate 0·5 less for the last ten years, and 2·0 less for the period 1861-83. The comparison of the Norwegian and Swedish rates for the latter period is still more striking: the natural increase in the one case is 13·9, and in the other 11·7, whilst the actual increase does not in either case reach 8. Denmark again shows a natural increase of 11·5, but an actual increase only slightly over 8. Turning to the trans-oceanic emigration statistics drawn up by Signor Bodio for all European countries, it will be found that the number of emigrants during the period 1880-92 has been as follows:—

Table showing Average Annual Trans-oceanic Emigration from the Chief European Countries.

	The United Kingdom.	Germany.	Italy.	Russia.	Spain.	Sweden.	Austria.	Portugal.	Norway.	Hungary.	France.	Denmark.	Switzer-land.	Hol-land.	Bel-gium.
1880........	227,542	117,097	35,677	—	—	36,398	20,993	12,597	20,212	8,766	4,612	5,658	—	—	—
'81........	243,002	220,902	43,725	—	—	40,762	24,712	14,637	25,976	11,257	4,456	7,985	—	10,100	—
'82........	279,366	203,585	67,632	—	25,796	41,585	18,119	18,272	28,804	17,520	4,858	11,614	10,896	7,304	—
'83........	320,118	173,616	70,436	—	26,669	25,911	19,581	19,251	22,167	14,839	4,011	8,375	12,758	4,855	—
'84........	242,179	149,065	59,459	—	20,769	17,895	21,039	17,518	14,776	13,195	6,100	6,307	8,975	3,729	—
'85........	207,644	110,119	78,961	—	24,315	18,466	16,372	13,153	13,981	12,348	6,063	4,346	6,928	2,146	1,286
'86........	232,900	83,225	87,423	33,724	34,043	28,271	19,403	13,738	15,158	25,149	7,314	6,263	5,803	2,024	2,048
'87........	281,487	104,787	133,191	29,355	37,200	46,556	20,156	16,521	20,741	18,270	11,170	8,801	6,801	5,018	3,834
'88........	279,928	103,951	207,795	38,747	49,283	45,864	24,819	23,632	21,452	17,786	23,339	8,659	7,432	4,298	7,794
'89........	253,795	96,070	125,781	35,874	97,719	29,067	21,090	19,647	12,642	22,064	31,354	8,967	7,445	9,111	8,406
1890........	218,116	97,103	115,595	85,548	37,025	30,128	28,236	28,945	10,991	27,422	20,560	10,298	6,693	3,526	2,976
'91........	218,517	120,089	189,746	109,415	37,721	38,318	33,777	—	13,341	21,419	6,217	10,382	6,521	4,075	3,456
'92........	210,042	112,208	116,642	74,681	30,190	—	31,359	—	—	20,313	5,528	10,422	7,835	—	5,174
Total	3,214,636	1,611,817	1,332,068	407,344	420,730	399,221	299,656	197,911	220,641	230,348	135,582	108,077	88,087	56,186	34,974
Annual average	247,279	123,985	102,466	58,192	38,248	30,709	23,050	18,901	18,386	17,719	10,429	8,344	8,007	5,107	4,371

Taking the average trans-oceanic emigration, and comparing it with the total population as given in the different censuses of 1889-91, it is possible to obtain an estimate of the proportion per 1,000 lost by the various countries.

Table showing Proportion of Average Emigration to Total Population in the Chief European Countries, arranged in Descending Order.

Country.	Population.	Average Emigration.	Proportion per 1,000 of Population.
Norway	1,999,176	18,386	9·19
United Kingdom	37,797,013	247,279	6·54
Sweden	4,802,751	30,709	6·39
Portugal	4,750,000	18,901	3·97
Denmark	2,172,205	8,344	3·84
Italy	30,347,291	102,466	3·37
Switzerland	2,917,754	8,007	2·74
Germany	49,420,842	123,985	2·50
Spain	17,500,000	38,248	2·18
Hungary	17,335,929	17,717	1·22
Holland	4,511,415	5,107	1·13
Austria	23,835,261	23,050	0·96
Belgium	6,069,321	4,371	0·72
Russia in Europe	91,861,910	58,192	0·63
France	38,095,156	10,429	0·25

Assuming that the effect of this trans-oceanic movement upon the countries of emigration can be best ascertained by considering the proportion emigrating, and that upon the countries of immigration by considering the absolute number of emigrants, it is clear that the British, German, Italian, and Russian emigration is of the very first importance from the point of view of the countries receiving it. On the other hand, it is equally clear that though the loss to Italy and Germany is a serious question for the countries themselves, especially in view of the fact that the emigrants are largely drawn from particular districts, Russia loses such an insignificant proportion of her population that emigration involves no waste of her industrial or military strength. It is also apparent that, with the exception of the United Kingdom, the countries sending out the largest number of emigrants are by no means always those in which population is densest. Germany and Italy certainly stand high in the scale of density of population, but not so high as Holland and Belgium; yet the Dutch and Belgian emigration is both absolutely and relatively small. Norway and Sweden, on the other hand, combine an exceptionally heavy emigration with a scanty population, and, in view of their rapid rate of natural increase, may be said to be thinly peopled in consequence of this drain upon their resources. French emigration is so small as to exercise scarcely any appreciable effect, and

Austrian emigration, though absolutely large, scarcely amounts to 1 per 1,000 of the population. It is clear from these statistics that the peoples who feel the need of expansion, or are unable to sustain their growing population within their own borders, are the Anglo-Saxon and Teutonic nations first and foremost, the Italian branch of the Latin nations, and the Slavonic population of the east of Europe. It has been already suggested that restrictions upon population and a diminishing birth-rate tend to create vacant spaces for the incoming of immigrants, possibly of a lower standard of living: and the foregoing survey of emigration statistics leads irresistibly to the same conclusion. The extent to which this tendency has actually been followed up is more difficult to ascertain, owing to the absence or inadequacy of statistics; but sufficient information has been obtained to indicate the existence of a growing pressure of the Slav upon the Teuton, and of the Italian, Spanish, and Belgian branches of the Latin race upon the French. It can scarcely be doubted that at the present rate of increase amongst Slavonic peoples this pressure will be increased. If whilst Russia can as yet scarcely feel the need of expansion, she still sends out an annual 50,000 of her population, it is impossible not to suppose that this number will become vastly greater, and that there will be little difficulty in replacing the diminishing populations of Scandinavia and eastern Germany by Poles and Russians.

The consequences to European countries involved in the annual departure of such a great army of emigrants are of two kinds. On the one hand, emigration is a distinct economic gain where it either relieves an over charged labour market, or stimulates home production by opening new markets for home produce. On the other hand, it cannot be too often stated that it is a distinct disadvantage both from an economic and from a social or political point of view where it either creates a scarcity of labour, and leaves behind it vacant spaces for the reception of immigrants of a lower standard of comfort, or where it relieves the labour market only at the cost of seriously weakening the industrial as well as the military force of a country. It becomes therefore a question of the first importance whether the emigrants are drawn mainly from the most or from the least productive and prosperous classes of the labouring population. Both the Italian and the German statistics, which are more complete than those of any other European country, bring out the fact that men of the most productive age are in an undue proportion amongst the emigrants. From 1886 to 1888, 24·8 per cent. of the German emigrants were men between 20 and 40 years of age, whereas the proportion which that class bears to the population as a whole is only 14 per cent.

In Italy the proportion of males emigrating between 1890 and 1892 was 87 to 90 per cent. of the total number of temporary emigrants, and from 66 to 72 per cent. of the total number of permanent emigrants. It is here shown incidentally, that where emigration is only temporary, the proportion of women amongst the emigrants is remarkably small. German trans-oceanic emigration is almost entirely permanent, and here the percentage of women is 44, or only 7·1 less than the percentage for the population as a whole. Similarly children constitute 23·4 per cent. of the total German emigration, and 24·9 per cent. of the total German population, whereas in Italy, where the percentage of children to the population is 30, children were only 22·32 per cent. of the permanent emigration during 1892, and 5·82 per cent. of the temporary emigration. Consequently, German emigration, which consists half of families, is regarded with far greater favour in the countries to which it goes than that from Italy, but the loss inflicted upon the mother country is proportionately greater. In some districts of southern Germany, where excessive subdivision of land and the absence of commercial centres have so disturbed the relation between the number of inhabitants and the means of subsistence, that emigration becomes a gain, it is probably also a gain that the emigrants should take with them their wives and children, but in the eastern provinces, which are being drained of their German labour force, the wholesale departure of labourers' families opens the way to Polish inroads. For emigration from eastern Germany has been largely drawn from the families of peasant farmers; from the very class, therefore, which the Government is now trying to create anew by its schemes of colonisation. The scarcity of agricultural labour, which has become a serious feature of the agrarian question in Germany, points further to social and political evils likely to ensue from an emigration largely rural in character. It is clear that this emigration is in the first instance directed to the towns more than to trans-oceanic countries where it could be profitably employed. Both in France and in Germany the depopulation of the rural districts is an increasing evil; when due allowance has been made for the good resulting to the town population by intermixture with a more vigorous stock, it can scarcely be doubted that this influx of labour only results in still further blocking an already congested labour market. Indeed the increasing pressure of difficulties with the unemployed in Germany is only one out of many phenomena which confirm this view. It is significant that every part of Germany, with the exception of Berlin, the Hanseatic towns, and the mining and manufacturing districts of Saxony and the Rhine, should show a positive loss by migration, and that whilst in some of the more purely agricultural districts such as eastern Prussia, Mecklenburg Strelitz, and Hohenzollern the population as a whole is actually decreasing, Hamburg and Berlin can show a gain of 36 per 1,000. But besides the economic effect upon the relation between the demand for labour and the labour force available, the political and social aspects of the movement deserve especial attention. A general feeling of restlessness and of discontent is the prevailing characteristic of the agricultural populations from which European emigrants are largely recruited. This discontent has its purely economic sources, but it points also to the wide-spread influence of increased education and quickened social aspirations as well as to their result in a growing desire for a fuller life and a more independent social status. Such a movement has had its good effect in a general rise in the standard of living, or again, as Dr. Kärger has pointed out with regard to the German migratory agricultural labour, in improved economic methods. At the same time it has undoubtedly led to the permanent or temporary depopulation of large districts at the very time of year when agricultural labour is most urgently needed. In Italy where there is a vast annual outpouring of the male population, partly counterbalanced by the re-migration of the wanderers homeward for the winter, field work has to be left in many places almost exclusively to women, whose lower wages cannot but exercise an injurious effect upon the general level of agricultural remuneration. On the other hand it must not be forgotten that in a country of few natural resources, such for instance as Norway, the well-being of the home-keeping population is probably increased by the departure of the emigrants. On the whole, however, the emigration of such a large proportion of their most productive subjects has become a serious question for the majority of European Governments. There are few countries, except perhaps the United Kingdom and Belgium, in which re-distribution of population is not a more vital question than restriction, and even in the United Kingdom it might possibly become desirable to check the flow of labour from the country to the town if this could be effected by natural methods. Germany, Austria, and Italy are alike seeking means to attach the emigrants to their homes. As the restrictive measures tried have proved ineffective, the problem now before each of those countries is to improve the condition of the labouring population, and especially of the agricultural classes, so that, in the words of Professor von Philippovich, home may be made "home-like to the wanderers." There is some indication that the efforts of the German Government in this direction are beginning to meet with a small measure of success. Whether it is due to the relaxation of the laws against the Socialists, large numbers of whom emigrated to America between 1878 and 1890, or whether it is owing to the increasing interest evinced by the German Government in labour problems, or again whether the phenomenon must be assigned to external causes, such as the cholera epidemic of 1892, or the discouragement of immigration by the United States, it remains certain that 1893 saw a considerable diminution in the flood of German emigration. In 1892 the total number of German emigrants passing through German ports, Antwerp, and Amsterdam was 112,208; in 1893 it fell to 83,812, a diminution of over 25 per cent.

The effects of immigration upon European countries are closely connected with the foregoing considerations. On the one hand there are a few indications of improvement due to the importation of skilled labour from abroad, as in the textile mills, iron foundries, and glass works of Spain; but, on the other hand, signs are not wanting of international jealousy occasioned by the displacement of native labour through immigration. Italy is a special offender. She receives no immigrants, and she floods the labour market in the south of France, and Switzerland, and in the Austrian provinces bordering on her frontiers, even sending her emigrants further afield into the northern countries of Europe. That she "feeds no "one and is everyone's guest" is only one amongst many ways of expressing the disapproval with which the Italian labourers are viewed in the countries receiving them. Disturbances of a serious character have occurred both in France and in Switzerland, owing to the jealousy between native and foreign workmen. The south of France, crowded as it is with Italian labour, illustrates the result of a limitation of the native population, whilst France as a whole, with its large contingent of immigrants from Belgium, Switzerland, Spain, and Italy exhibits many of the evil effects of immigration.

M. Levasseur has shown from the criminal statistics that increase of crime follows any rapid influx of population. The wine trade of the department of Hérault received a sudden impetus from the construction of railways; it was immediately invaded by a large number of immigrants, and passed from amongst the ten departments least affected by crime to rank amongst the five most affected. "French society is growing rich, "and the population is becoming both concentrated and, owing to "the greater facilities for movement, more mixed in nationality. "At the same time, inducements to crime are multiplying, so that "the increase of crimes and misdemeanours is more rapid than "that of the population."

German authorities speak strongly of the moral degeneration which has resulted from the migratory habits of the agricultural classes, and Dr. Weber, who has made a life study of the question, draws attention to the grave results likely to ensue from the peopling of eastern Prussia by Poles. In his opinion the movement from Russian and Austrian Poland into Germany is advancing, so that already the result is "a difference of race between "the landlords and their labourers, and this in territories formerly "purely Teutonic." He holds that a divergence of political interests between employers and employed will be not improbably followed by the gradual approximation of the interests of the German landlords to those of their Polish labourers, an approximation fraught with the most disastrous consequences, both from a national and a religious point of view. Even apart from the political aspect of the question, it is clear that where the labouring population is both alien and migratory, the mutual good feeling resulting from long established relations between employers and employed must inevitably be lacking. The effect which such an intermixture of races has had upon the strike movement in the United States has been forcibly illustrated in the current year.

As to the United Kingdom, it is removed by its insular position, as well as by other considerations, into a somewhat different category. The British workman is no more disposed to welcome the advent of the foreigner than his continental brother; but, even if he can establish the charge of injury to particular trades or districts, it would be impossible to suggest that any grave national evils are likely to result from the incoming of aliens at their present rate of increase. The recent publication of the Board of Trade, the accuracy of which has not been disproved, has placed it beyond question that alien immigration into the United Kingdom is both absolutely and relatively insignificant, and that, were it not for the fact that the immigrants congregate in three centres—London, Manchester, and Leeds, and engage mainly in one branch of industry, we should hear little of the "displacement of native labour by the lower-priced labour of "aliens." After a careful comparison of the Board of Trade's statistics of in-going and out-going passengers, Mr. Willis concludes that the balance outwards during the years 1890-93 was 102,481, 96,732, 93,483, and 93,299. Even allowing for the fact that 49 out of every 100 native emigrants do not permanently forsake the United Kingdom, the net native emigration from Great Britain and Ireland more than balances these figures. Consequently the difference between the actual loss and the loss which would result from native emigration may be taken to represent the total number of aliens who have come to stay. This difference works out as follows:—

	Loss by Net Native Emigration.	Loss by Excess of Out-going over In-coming Passengers.	Consequent supposed Gain through Alien Immigration.
1890	110,218	− 102,481	= 7,737
'91	118,096	− 96,732	= 21,364
'92	114,972	− 93,483	= 21,489
'93	109,090	− 93,299	= 15,791

Allowance must again be made for foreign seamen entering the United Kingdom only to take ship again as members of a crew, not as outgoing passengers, and for the small amount of British and Irish emigrants going through continental ports. "We may "conclude," says Mr. Willis, "with approximate accuracy, that "the whole foreign movement into the United Kingdom resulted "in an addition to the alien population resident in this country of "about 12,000 persons in 1891, of rather less than 11,500 in 1892, "and of something under 6,000 in 1893." The total number of resident foreigners at the time of the Census of 1891 was 219,523, or 5·8 in every 1,000 inhabitants of the United Kingdom. Even with the subsequent additions to the alien population it is obvious that the foreign element is numerically insignificant, and far below that of other European countries. The German Census of 1890 gave a proportion of 8·8 foreigners per 1,000 inhabitants, Austria proper had 17·2 in the same year, whilst in France, where the proportion has been steadily rising at each succeeding census, it was as high as 29·7 in 1886. It may be noted in passing that the ratio in the United States was 143·2 in 1880, and 147·7 in 1890. Were it not therefore for the fact that three-fourths of the total alien immigration into the United Kingdom arrives at the Port of London, for the most part to remain there, and that more than half of the total increase between 1881 and 1891 was composed of Poles and Russians, the whole question might safely be dismissed from any general review of the movement of population. But with 59 per cent. of the Russo-Polish element resident in the metropolis, and moreover four-fifths of these in the three districts of Whitechapel, St. George's in the East, and Mile End Old Town, it is clear that we have an alien labour problem, even if it is a restricted and local one. It remains to be seen what the Labour Department has brought to light with regard to the condition of the alien population and its influence upon the market for native labour. We find first and foremost that there is little fear of the continued isolation of the foreign element. Thanks to the "anglicising" influence of the admirable Jewish schools, the children of the immigrants "enter the school Russians and Poles, and emerge "often almost indistinguishable from English children." The efforts made to instil something of English notions of cleanliness, together with the English language, produce, we are told, a most marked change in their appearance and habits. Then again we must beware of giving hasty credence to any general assertion of undue pauperism amongst the alien population. It is true that the Jewish workman has scarcely any of the proud independence which debars the better class English mechanic from claiming public assistance; but the aid which he does seek is given him largely by the voluntary liberality of his co-religionists. Russians and Poles form 18 per cent. of the population of Whitechapel, but only 1 per cent. of its paupers. Nor does the extensive activity of the Jewish relief agencies appear to "pauperise" the persons relieved in the ordinary sense of the word. The tenacity of purpose and elastic standard of comfort which have made the Jew what he is, very seldom desert him; "he will take what help he "can get, but he does not therefore slacken in the pursuit of "gain," nor lose the power of self-help, which so often and so rapidly converts the newly-arrived "greener" from a "sweatee "into a sweater." This saying of an English trade unionist puts in a nutshell the peculiar Jewish characteristics which will always arouse the animosity of English workmen. The Jew's infinite power of adapting his standard of comfort to the circumstances of the moment, his cheerful acceptance even after middle life of a learner's wages, his watchful eagerness to seize on the first opportunity of bettering himself, and the rapidity with which he can in his turn become the employer of others, are disconcerting to men accustomed to move on old established lines. But when all has been said which can be said against Jewish methods of work, when it has been admitted that their workshops are often insanitary, that they break off from trade agreements, that they are addicted to the "outwork" and "chamber master" system, with its attendant evils, there remains the fact that in the boot and shoe trade, which absorbs a large proportion of the Jewish population, their competition has not affected the piece-rates recognised generally in the trade, nor has the presence of foreign labour been a considerable factor in any of the recent disputes. Nay, more, there emerges the still more striking fact that the foreign Jews are largely employed upon a class of work which could not be profitably made by English labour, and which but for their presence would leave London either for the provinces, where it would be made by machinery, or for the continent. So far, therefore, from having displaced native labour, the foreign Jew has positively created a new trade. Miss Collet has brought out this side of the question in a still more striking fashion with regard to the tailoring and clothing trades. In mantle making the

Jews "may be regarded as the introducers of a better system of "organisation and a better article. According to the information "supplied by three London firms, they are in reality making an "opening for successful competition with Germany." Nor is this result achieved by starvation wages. On the contrary, the Jewish women reject the less profitable branches of the tailoring trade, and confine themselves to the best paid branch, that of coat making. Cap making is said to be not sufficiently remunerative to attract them, and cap makers are obliged to fall back upon English labour. Throughout the clothing trades, as in the boot trade, the real competition is not between one nationality and another, but between men and girls, whether Jewish or non-Jewish, in factories working with steam power; it is only the old quarrel between the man and the machine.

As far as average daily earnings are concerned, the advantage is entirely with the Jew, owing to his genius for organisation and for the sub-division of labour. The English tailor, says Miss Collet, is slow to understand that given such sub-division, "low "rates per garment do not necessarily imply low earnings per "day." If he would only condescend to take a lesson in organisation from his Jewish competitor, he might reverse the positions; and Miss Collet concludes an interesting and notable summary by the statement that "nothing but the conservatism of the English "tailor prevents him from successfully entering into the field "opened up by the Jews." Considering therefore the characteristic tenacity, persistence, temperance, and industry of the foreign Jewish population, and their economic value as creators of new trades as well as consumers of the products of other trades, it becomes a question whether a restrictive immigration policy might not involve as serious a loss to the community as would have been incurred by a refusal to admit the French silk weavers driven out by the revocation of the Edict of Nantes. Would not such a policy also involve the loss of the transit passenger traffic to the United States, which is now a source of profit to so many of our steamship companies? Surely before England forsakes her traditional hospitality to the persecuted of all nations, she must have stronger grounds than the doubtful appearance of a handful of immigrants whom a very few months may transform into a source of wealth, and whose children will be hardly distinguishable from her native population. Even the political misdeeds of a handful of anarchists need scarcely suffice to turn the scale in favour of a policy of restriction.

But the position of the United Kingdom is certainly exceptional. We have not, like the Teutonic nations, to face the constant pressure upon our borders of a hostile and military power which renders it imperative to strengthen our nationality, and we have not, like the United States, to face an enormous or rapidly growing foreign element. It is sufficiently obvious that almost all the effects produced upon European countries by the migration of labour, and especially by immigration, appear upon a larger scale in non-European countries. The relief afforded by emigration to congested populations is of the first importance in India, the part played by immigrants in developing the resources of a country and introducing new industries will naturally appear most strongly in all countries during their period of colonisation, and the effect of travel upon the emigrants themselves in encouraging thrift and raising them in the scale of living is, perhaps, nowhere more evident than amongst the Indian coolies sent to the West Indies and Guiana. The friends of Kanaka labour in Northern Queensland claim that a process of civilisation may be observed amongst the imported Polynesians. Taking first the beneficial effects of immigration, it is admitted that these will be greatest in the colonial period of development, when labour is urgently required for opening out the resources of a country, and skilled and unskilled alike find a ready field of employment. At a later period the continual advent of the unskilled, or of labourers of a different and inferior race, tends to raise the position of the superior workman by relieving him from the necessity of performing the harder manual tasks, if not reducing his labour to mere supervision. Though the Chinese in California filled at one time all the subordinate positions in industry and agriculture, the superior posts were almost invariably occupied by Europeans, and white men had a monopoly of the more skilled and better paid industries. Again, the importation of coolie or Kanaka labour to work the sugar plantations of Queensland or the West Indies undoubtedly relieves white labour from an occupation for which it is physically little fitted. Australian workmen certainly object to relief at such a cost, but this objection only confirms the strength of the racial jealousy which has led, both in America and in Australia, to such severe measures against the coming of the Chinese. This feeling is naturally intensified where the state of the labour market does not justify the demand for more immigrant labour. Apart from the stage of development which a country has reached, this result may follow, either from the advent of the wrong kind of immigrant labour or from failure to direct it to the districts in which it is required. Though the western regions of the United States and the greater portion of the continent of Australia still afford ample scope for the employment of labour of every kind, the large numbers of men already out of employment in the Australian cities, and the overcrowding of the

American labour market in the Eastern States, gives some colour to the strong agitation in favour of the restriction of immigration.

The United States have long been the recipients of the vast majority of European emigration, and up to 1882 no exception was taken to the coming of immigrants other than the Chinese. Indeed, as late as 1864 a Bill was passed for the direct promotion of immigration, and in April, 1893, a Convention was held at Richmond, Virginia, amongst the Governors of the Southern States, to consider means for obtaining immigrants for the south. During the last ten years, however, there has been a growing opinion amongst American workmen that their interests are prejudiced by the large amount of foreign labour arriving annually. In the mining districts American labour has been largely displaced by Hungarians and Italians, and certain branches of the clothing trades have passed almost entirely into the hands of Russian and Polish Jews. The quality of the immigrants is as often a subject of complaint as their quantity. The latest statistics of the United States Treasury prove, indeed, that countries sending a desirable class of immigrants, such as the United Kingdom, the Scandinavian countries, and Germany, maintain their contingent or show only a slight diminution; but at the same time there is a marked, and in some cases extraordinarily rapid, increase amongst immigrants generally recognised as of a low class, and undesirable, both from an economic and from a social point of view. The total immigration during the decade 1881-90 may be classified as follows:—

Great Britain		1,462,839
England	657,488	
Ireland	655,482	
Scotland	149,869	
Germany		1,452,970
Sweden and Norway		568,362
Austria-Hungary		353,719
Italy		307,309
Russia and Poland		265,088
Denmark		88,132
Switzerland		81,988
China		61,711
Netherlands		53,701
France		50,464
Belgium		20,177
All other countries		480,153

The United Kingdom, Germany, and Scandinavia are therefore still well ahead of every other country, but the annual immigration, both from Germany and Switzerland, has diminished, whilst that from Italy, Austria, Hungary, Poland, and Russia has increased very largely. During 1891-92 the increase was still more rapid, except in the case of Italy, but the Italian figures for 1892 were still above those for 1890. The following comparative figures show the increase amongst these nationalities:—

	1881.	1890.	1891.	1892.
Italy	15,401	52,003	76,055	62,137
Austria	21,109	34,137	42,676	42,900
Hungary	6,826	22,062	28,366	37,236
Russia and Poland	10,655	46,671	74,923	117,692

In spite of restrictive legislation, the fiscal year ending 30th June, 1892, showed a volume of immigration larger than that in any previous year since 1883, the first year in which any restrictive Act was in force. German immigration showed an increase upon the figures for 1891 and 1890, and England and Wales a diminution of from 57,689 to 50,527. The great bulk of the increase came from the countries specified above as sending an undesirable class of emigrants, and was more especially composed of Polish and Russian Jews and Hungarians. The gradual rise in the relative number of such emigrants appears most clearly from the following table, which gives the percentage contributed by each country to the total immigration into the United States in the two decades 1871-80 and 1881-90, as well as in the years 1891-92:—

	1871-80.	1881-90.	1891-92.
United Kingdom	35·03	27·88	20·27
England and Wales	16·38	12·53	8·84
Scotland	3·11	2·86	2·03
Ireland	15·54	12·49	9·40
Germany	25·54	27·70	20·65
Norway and Sweden	7·51	10·84	9·05
Austria-Hungary	2·60	6·74	12·77
Italy	1·98	5·86	11·68
Russia and Poland	1·86	5·05	16·28
France	2·57	0·96	1·12
Belgium	0·26	0·38	0·62
Denmark	1·13	1·68	1·80
Holland	0·59	1·02	1·05
Spain and Portugal	0·35	0·12	0·48
Switzerland	1·00	1·56	1·20

The percentage in 1891-92 from the United Kingdom has therefore diminished since 1871-80 by nearly one-third, and that of Germany by one-fifth, whilst in 1891-92 Austria-Hungary sent a proportion six times greater than between 1871-80, and nearly double that for the succeeding decade. The Italian immigration in 1891-92 was twice as large in proportion to the whole as in 1881-90, whilst the Russo-Polish proportion had multiplied by three.

The consequences of this gradual change in the countries, from which the great mass of immigration is drawn, are difficult to determine accurately. In the face of the overwhelming mass of evidence available, it cannot be doubted that certain districts and certain industries have suffered severely from the competition of "low-priced foreign labour." The records of Pennsylvanian mining strikes show unmistakably the disastrous consequences to which the presence of this large amount of free labour has subjected the strikers. Moreover the revelations contained in the Contract Labour Committee's Report of 1889, and the Sweating Committee's Report of 1893, form the very strongest indictment against a system which permits the massing together of hordes of Italians and Russo-Polish Jews in the clothing workshops and tenement home cigar shops of New York and other large cities. It has also been shown that where the foreign population is large labour disputes tend towards violence and lawlessness, and that organisations which have a large following amongst foreign labour are most bitter against employers. Amongst the dangerous political effects of an extensive emigration, Professor Mayo-Smith enumerates the massing together of foreign born voters, the influence of this foreign element upon politicians desirous of winning their vote, and the risk of outbreaks from anarchists and socialists who are hostile to American institutions, and yet have obtained the voting power. It has, on the other hand, been pointed out that these effects may be to a certain extent neutralised by the influence of the American language, nationality, and institutions, and by the exercise of greater care in permitting aliens to become naturalised. Professor Mayo-Smith also considers that, when due regard is paid to the fact that the foreign population is very generally drawn from the lower classes, whilst the native population includes upper and middle classes, the statistics of disease, insanity and mortality do not show that the foreign population is affected in an undue proportion. On the other hand, the statistics of crime, pauperism, and illiteracy are much more unfavourable to the foreign element. According to Mr. John Burnett's report, nearly three-fifths of the paupers in the almshouses of the United States in 1890 were of foreign birth.

But from the point of view of the American workman, these political and social disadvantages fade into insignificance before economic considerations, and the friends of immigration are therefore driven to seek its justification upon economic grounds. When labour of any kind has ceased to be a desirable quantity, the economic advantages of immigration must depend either upon the capital which the immigrant brings with him, or upon the value of his labour, both physical and intellectual. The average capital brought by each immigrant was reckoned twenty years ago at $100, but the statistics published by the superintendent of immigration for the 152,360 immigrants landing in New York during the first half of 1892, only give $20·09. As the average wealth per caput of the United States is reckoned by Professor Mayo-Smith at $1,000, it is obvious that even if the immigrants had possessed the $100 with which they were formerly credited, this would not prevent their presence from diminishing the average well-being of the community. Clearly therefore their economic value, if any, must depend upon the amount of labour power which they bring with them, and upon the demand for their labour. The large proportion of men appears at first sight an element in their favour. Between 1881 and 1890 61·10 per cent. were males, and 38·90 per cent. females. Again, 68·1 per cent. of the immigrants arriving during that period were between 15 and 40 years of age, or at the most productive period of their existence, whilst 21·4 per cent. were below 15 years of age, and 10·5 per cent. above 40. In this connection however it must be again noticed that a high percentage of men amongst immigrants cannot be regarded as an unmixed advantage, since it very frequently indicates that the immigrants have not come to stay, and that owing to their desire to save money rapidly, their deficiencies as consumers will go far to counterbalance their efficiency as producers. It is certain that the percentage of adult male emigrants is greatest amongst the nationalities which are least disposed to settle down and assimilate with the native population. In 1892 the proportion of males among Italian immigrants was 76·34 per cent., amongst Hungarians it was 73·75 per cent., amongst Austrians 66·80 per cent., and amongst Russians 60·44 per cent. Chinese immigration again is almost entirely composed of men. Further, the European nationalities enumerated furnish the largest proportion of children and persons past the prime of life; 10·37 per cent. of the Italian immigrants in 1892 were over 40 years of age, and 21·79 per cent. of the Russians were under 15. Still, on the whole, it must be admitted that though the tendency of the movement has apparently of late years been in the direction of increasing numbers of less desirable immigrants, from a purely economic point of view the proportion of the sexes is favourable to production. As M. Levasseur has shown in a series of pyramidal diagrams, the middle age classes, especially on the masculine side, are large in proportion to the older and younger classes.

Nevertheless an immense force of productive labour is of little value unless it can be shown to meet a corresponding demand. At present the supply available amongst the new arrivals consists very largely of unskilled labour. 47·34 per cent. of the immigrants landing between 1881 and 1890 were described as of "no "occupation," and with the addition of those who did not state their occupations, this percentage rises to 49·59, or very nearly one-half. A further 39·63 per cent. includes labourers, farmers, servants, and merchants, whilst skilled labour properly so-called and the professional classes together constitute only 10·81 per cent. Even allowing for the fact that the persons without occupation include a great number of women and children, there remains a large proportion of unskilled labour. In 1892 13·03 per cent. of the male immigrants were stated to belong to skilled and professional occupations, 57·57 per cent., or over one-half, belonged to the class of labourers, farmers, and servants, and 29·40 per cent. were without occupation. It is clear therefore that skilled foreign labour can scarcely be a serious element of competition with skilled American labour, but it is equally clear that unless some means can be devised for directing this great mass of unskilled workmen to the less developed districts, where they might perhaps be profitably employed, their presence must exercise a harmful effect upon the market in the eastern States both for skilled and unskilled labour. There can be little doubt that in the past they have been employed to supplant American workmen on strike, and that with the growing use of machinery, requiring little technical skill to manage it, they can take the place of skilled workmen in a large number of factories. Where it has been possible to place even the lower class Italian labourers upon the land, the results achieved by them in farming and market gardening have proved eminently satisfactory. The great cost of transport prevents many of the immigrants from going west, but if this difficulty can be surmounted, there is still little question of the possibility of turning their labour to account.

No mention has as yet been made of the French Canadian immigration, chiefly because it has been found impossible to obtain reliable statistics as to its extent or its character. Much of it is seasonal and temporary, and is counterbalanced by a similar movement from the States into Canada. At an earlier period it afforded an example of all the evil effects upon American industry generally attributed to a low class immigration, but it affords also a striking illustration of one of the most hopeful features of the immigration movement, the tendency, namely, amongst nationalities to rise in the scale of civilisation when the lower ranks of labour are recruited by immigrants of another race. The Irish labour which poured into the States in the middle of the century was pushed upward by the flood of Canadians. The French Canadians have in their turn been supplanted by Italians and Hungarians, and the reproaches formerly brought against them are, in the opinion of Mr. John Burnett, no longer justified. It remains to be seen whether the recent inroad of Poles and Russians will exercise the same influence upon Italians and Hungarians, and the bearing of this tendency upon the question of the admission or exclusion of Mongolian labour, already alluded to, can only be mentioned in passing.

It is unnecessary to consider the other countries of immigration at length, since the effects already noted in the United States repeat themselves in a lesser degree both in our self-governing colonies and in South America. The South American Republics are still able economically to digest almost any quantity of labour, provided that that labour is of a kind to withstand the climatic conditions, which in Brazil at any rate are peculiarly unfavourable to Europeans. Financial crises and political instability have checked the flow of immigration in recent years, but in 1888 no fewer than 97,730 Italians emigrated to Brazil, and 65,958 to the Argentine Republic. There is a large Spanish and Portuguese emigration to Brazil, and the Spaniards rank third amongst immigrants to the Argentine. Poles and Russians come next to Italians amongst Brazilian immigrants, whilst France, England, Switzerland, Austria, and Germany have sent large contingents to the Argentine. Immigration into the British colonies is largely British, and so far little adverse feeling has been expressed by the colonists except in connection with State aided emigration or emigration assisted by poor law administrators and charitable societies. It may be mentioned in passing that one of the chief objectors to this system in Queensland had himself apparently come out with an assisted passage. In colonial opinion the period during which the direct encouragement of immigration was necessary or desirable has passed, and though the colonists have not as yet reached the stage in which its restriction or exclusion is necessary, they hold that if it is to be profitable it should be unaided. The Chinese have indeed been almost entirely excluded by law both in British North America and in Australasia, whilst strong feeling has been aroused in Queensland against Kanaka labour, and to a less degree in Natal against the importation of Indian coolies. In the Crown colonies, both of the eastern and western hemispheres, coolie labour is still much desired, and the protective action of the Indian Government forms a strong link between all the countries to which the coolie labour travels.

Amongst the Governments which have adopted restrictive measures against immigration the United States Government occupies the foremost place. Formerly in its dealings with foreign powers it was careful to give prominence to the doctrine of the "inherent and inalienable right of man to change his home and "allegiance," and confined itself to prohibiting the importation of coolie labour under contract as akin to slave labour. In 1882, after a prolonged agitation, it passed from this position to the imposition of restrictions upon Chinese labour, restrictions which were increased in 1884, and in 1888 superseded by the total exclusion of Chinese labourers by Act of Congress. A further Act was passed in 1892 prolonging the Exclusion Act of 1888 for another ten years, and providing for the removal to China, or to any other country of which he is a subject, of any Chinese person unlawfully within the States. During the period which witnessed the progressive exclusion of the Chinese, the attitude of the United States Government towards European immigration changed from one of general encouragement to one of growing discrimination, culminating in what can scarcely be described as anything but direct discouragement. Beginning with the imposition of a poll tax, and the exclusion of persons convicted of crime or likely to become a public charge, Congress went on to protect American workmen from foreign competition by prohibiting the importation of labour under contract in 1885, and strengthening this Act by amendments in 1887 and 1888. In 1891 the classes of persons to be excluded were further defined by the addition of those suffering from loathsome or contagious diseases, polygamists, and persons whose passages had been prepaid, unless they could prove that they were not contract labourers and that they were going to join some friend or relative. Steamship companies were also forbidden to induce emigration by promises of employment, or by "writing, printing, or oral representations to solicit, invite, or "encourage" it in any way, except by the mere advertisement of the times of sailing of the vessels and the company's terms. The provisions for the inspection and sifting of immigrants on arrival were made more elaborate, and further precautions taken to prevent the landing of prohibited immigrants or their passage across the land frontier. In spite of the vigilant action of the authorities, and the return to Europe, at the expense of the steamship companies, of 2,164 prohibited persons and of 637 persons who had become a public charge within a year after their landing, the volume of immigration did not diminish until the latter half of 1892, the year of the cholera epidemic. Two further Acts were passed in the spring of 1893, one to determine the powers of the Federal Government with regard to quarantine regulations, and the other to define still further the preventive measures to be adopted against the landing of immigrants of the prohibited classes.

This Act, which came into force in May, 1893, did not add to those classes, but imposed upon steamship companies the duty of inquiring into the eligibility of their immigrant passengers, empowering them to ascertain the amount of money brought by each passenger, as well as to satisfy themselves that he possessed the physical, moral, and economic qualifications laid down by previous Acts. Thirty dollars was fixed as a standard sum for each immigrant, but it does not appear that the admission of aliens is in practice made to depend upon their possession of that sum or of any other. It is rather the result of a balance of considerations which induce the inspectors, who review the immigrants upon their arrival, to judge them likely or unlikely to maintain themselves without becoming a public charge. Indeed instances occur in which temporary aid is granted to immigrants, and the need of such aid is not in itself regarded as a disqualification. As the question is summed up in the Board of Trade report, "under the "laws of the United States, neither destitution nor inability to "provide for his own support is of itself necessarily and under all "circumstances alike a ground for the exclusion of an alien .... "The persons whom the United States aims at keeping out of the "country .... are those persons who, whether destitute or "not, are likely to be unable to support themselves, under circum"stances which make it probable that the burden of their support "will be cast upon the public."

Restrictive legislation in the Colonies is for the most part confined to Chinese Restriction Acts, which have been passed in all the Australasian Colonies, and in both British Columbia and the Dominion of Canada. None of these laws go so far as the American Acts of 1888 and 1892, but they limit the number of Chinese passengers which may be brought by one vessel, whilst the New South Wales Act forbids the nationalisation of Chinamen, and imposes a prohibitive poll tax. In Canada, Chinamen must pay a heavy initiatory fee for registration. The South American Republics, on the other hand, show a tendency to invite the coming of the Chinese. There is little special legislation with regard to European immigration, and it is only within comparatively recent years that the practice of encouraging immigration by the grant of free or assisted passages has been discontinued by the Colonial Governments. Victorian law forbids the shipping of convicts to her shores and prevents the landing of imbecile passengers. The same class is excluded by the laws of New Zealand and Tasmania, and in New Zealand owners of ships bringing persons likely to become a public charge must execute bonds in the sum of 100*l.* for every such person, so as to refund all expenses incurred for his support during five years after his landing.

The last year has seen restrictive legislation of a special kind, in at least the European countries. The anarchist outbreaks of last autumn in France, which, by the way, I indicated as probable in my report to the Labour Commission on that country, the subsequent outrages in the present year all over Europe, and the assassination of President Carnot, produced a general panic. France and Italy, where anarchism may be said to find its natural home, have passed special laws, and in Italy, at the present time (October, 1894), the complete suspension of what equivalent the law provides to our Habeas Corpus Act will, it is hoped by the Government, be as salutary, as it is apparently unavoidable. Spain has confined herself to wholesale arrests, and the Teutonic countries have, hitherto, relied only on the quickened activity of their police. Germany, it is to be hoped, will not feel obliged to retrace the steps she has taken on the path of toleration. What is most remarkable is the proposal of anti-anarchist legislation in England and America. Lord Salisbury's Bill rests, one cannot help thinking, on a want of appreciation of the sturdy common sense and ingrained constitutional principles of the working man, who has certainly not received the anarchist, hitherto, with open arms. In England at any rate the ordinary authorities, aided as they will undoubtedly be by popular indignation, will be able to cope with any real danger, without giving these contemptible folk the opportunity they long for, of posing as martyrs to special legislation. In America the question takes a different form, and it is probable that the two Bills introduced this year into the American Senate may be justified by their promotion this autumn. The foreign working man has possibly not yet imbibed enough of the American spirit to enable him to use his newly acquired privileges, but in any case a reform of the American police to be entrusted with the carrying out of existing laws would seem to be necessary, to judge from the revelations recently made.

A directly favourable attitude towards immigration is most marked in the case of the South American Governments, where it takes the double form of offering inducements to immigrants, and of professing to afford them protection upon first arrival. Brazil, the Argentine Republic, Uruguay, Chili, and Peru, have all expended large sums of money in granting free and assisted passages, whether directly or through the agency of steamship companies and private individuals, upon whom the selection of the immigrants devolves. Unfortunately, this selection does not appear to have been sufficiently careful. It is said, of the assisted immigrants to the Argentine, that "a large proportion consisted "of city loafers and confirmed idlers ..... None possessed the "least capital of their own; nearly all gave false statements of "their profession or calling; many signed false names to requests "for passages, and affixed false signatures to the bills for the "advanced passage money." On the whole, South American experience points to the conclusion already arrived at by the Colonial Governments, that indirect inducements, such as facilities for taking up land, the establishment of agencies for diffusing reliable information, together with some provision for the care of immigrants on arrival, and their direction to suitable destinations, are preferable to the wholesale system of assistance still in practice in South America. Canada remains more favourable to the adoption of measures for inducing immigration than any other colony. The Canadian Government diffuses information by means of a travelling commission, and is prepared to grant exceptional facilities to settlers in the North West. According to a recent writer in "The Times," "there is at present a strong "popular demand for a vigorous immigration policy on the part "of the Government," and the large amount of available land has within recent years attracted numbers of Danes, Swedes, Norwegians, Icelanders, Germans, Belgians, and French, besides several colonies of Russian Jews. The bulk of Canadian immigration is however still drawn from the United Kingdom. The years 1892-93 witnessed a strong movement into North Western Canada from the United States, which is said to be due to the superior facilities offered to farmers in Canada. Queensland and Western Australia still give aid to immigrants in a few definite cases, but Queensland for the most part confines itself to the care of immigrants on arrival, and to providing for the proper regulation of the traffic in Pacific Island labour. Legal provision for the protection of Chinese coolie labour exists in the Straits Settlements, and there are immigration ordinances in most of the Colonies to which Indian coolies are sent. The terms of these are in all cases determined by the Indian Emigration Act of 1883. This Act provides for the protection of coolies by determining the manner of recruiting, engagement, and transport, the terms of the contract under which the emigrant is to work, the treatment which he is to receive while resident in the foreign country, and the method of his return. The Indian Government goes so far as to prohibit emigration to countries in which it has reason to suppose that the welfare of its subjects will not be assured, and it keeps inspectors for the supervision, not only of coolies working under contract, but of all free coolies who elect to remain in the country of their adoption. No such complete supervision of its emigrant subjects has been undertaken by any other Government. The Chinese Government has taken some steps in the same direction with regard to Chinese labour in the Malay Archipelago, but, except for occasional protests against the violation of treaty obligations, it does not as a rule interfere on behalf of Chinese labourers in America or Australasia. It has, however, prohibited Chinese emigration to Peru, owing to the barbarous treatment which the coolies received.

European Governments have been singularly backward in the adoption of measures for the protection and direction of emigrants. With the exception of England, none of the chief countries of emigration have established any centre of reliable information. The Imperial Government of Germany confines itself to a recognition of the right of migration, and a few regulations with regard to provision for health and safety on emigrant ships. Any attempt to control the action of emigration agents is left to the State Governments, and the regulations in force are extremely various. The Italian Government regulates the conditions of transport and the action of emigration agents, but makes no provision for the future welfare of the emigrants. In Switzerland the law lays down the conditions under which anyone can become an emigration agent, and also specifies certain classes of persons, such as paupers and imbeciles, who are not allowed to emigrate. Young persons under 18 are also not allowed to proceed unless accompanied, or likely to be met on their arrival, by trustworthy persons. All three Governments prohibit the emigration of persons liable to military service, but this prohibition is said to be frequently evaded.

On the whole it appears to be established that though the migration of population and the resulting intermixture of races introduces complications into the labour question, these complications bear a decidedly different aspect in Europe and in non-European countries. Immigration into old countries is frequently effected at the expense of the previous inhabitants, and follows upon depopulation due to emigration or to a diminishing birth-rate. Immigration into a new country merely supplements the existing population, and the friction between heterogeneous elements which constitutes such a serious political danger upon the frontiers of an old country, may in the new country be more safely left to the pacific action of time and of assimilation. At the same time American experience brings out clearly the economic difficulties resulting from rapid and wholesale immigration, and raises the question whether restrictive measures are not in themselves desirable. On the one hand there is a lesson to be learned from the experience of a country like England, which in the past and even in recent times has undoubtedly gained by its readiness to receive foreigners driven by persecution or any other cause to claim its hospitality; on the other hand, there is the evident degradation attending the competition of low class with high class labour. In deciding this question two considerations must be allowed due weight. Over against the possibility that the higher class will gradually raise the better elements from amongst the lower to its own level, a result that succeeding waves of immigration appear to have partly achieved in the United States, must be placed the principle underlying the economic quarrel between protection and free trade. The country which protects its own labour by excluding alien immigration may itself be met by similar checks when seeking an outlet for its population. If for the moment this seems a remote possibility to the nation which receives the largest number of immigrants and at the same time appears most disposed to adopt a protectionist attitude, it may still be pointed out to the advocates of American methods that, as a writer to the "Times" has expressed it, "land hunger is already "felt so keenly in the United States" that during 1892 and 1893 large numbers of its citizens have migrated to the Canadian North West. But whilst admitting that the fear both of losing valuable additions and of provoking reciprocal action might well debar a country from excluding immigration, it must also be admitted that American and colonial experience go far to justify the exercise of discrimination in the reception of immigrants. The true principle underlying the wide-spread objection to assisted emigration, is the feeling that the energy and enterprise needed for voluntary emigration are in themselves an index of the capacity and self-reliance indispensable to success in a new country. The history of the carefully arranged Government settlements of Scotch crofters in Manitoba, goes far to justify the colonial prejudice against any system which attempts to solve the question of the unemployed merely by changing its locality. Whilst therefore experience points to the inevitable acceptance of the migration of population as a determining factor in the labour question, it points also to the desirability of leaving that migration free from artificial stimulus. If the imposition of the one involves the possible loss of desirable elements, the application of the other seems to involve the certain acquisition of elements equally undesirable.

At the same time it is not suggested that because direct interference is to be deprecated, the inevitable movement of population is to be a matter of indifference to the Governments of Europe or of any other continent. On the contrary, outside England it calls for the most urgent attention, whether the question at issue be the European movement from east to west, or whether it be the tendency of the yellow races to spread themselves eastwards on to the shores of the Pacific, and southwards through Malaysia into

Australasia. These two great movements of the European and Mongolian peoples, together with the immense migration from India to the Crown Colonies and to Africa, and the spread of the black races in America, constitute in its broad outlines the population question, and therefore the labour question of the future. In Europe the Latin races of the south and the great Slavonic peoples of the east are gradually pressing the Teutons within narrower and narrower limits. Italy has, indeed, recently made some attempt at internal colonisation, but the Italian still comes into Austria just as he passes northwards into Switzerland. The Russian Government may desire an expansion eastwards into Siberia, but the great massing of the Slavonic peoples is upon the Teutonic frontiers; they are expanding, as the peoples of Eastern Europe have always expanded, westwards, whilst the peoples of Western Europe emigrate in large numbers to America. This wholesale emigration amongst the Teutonic nations of Scandinavia is making room for a Slavonic advance, slower certainly than the advance further south, owing to difficulties of climate, but still taking its share in the supplanting of Teutonic labour and Teutonic civilisation by a civilisation at least two centuries behind. What, under these circumstances, is the problem for the Teutonic Governments? The German Government has already given some answer to the question, through its policy of a gradual repression of the Slav by an advance of the German. Internal colonisation as a means of maintaining a Teutonic population, and at the same time, therefore, a standard of living which will bear some comparison with the standards of English speaking peoples is no less important from the point of view of the labour question than from that of European politics. This colonisation has already been begun upon the eastern frontiers of Germany; it may possibly extend southwards through Austria-Hungary into the Balkan peninsula, and thus prevent the junction between the Slav and the Latin, which the present movement of population in Europe seems to threaten.

For European Governments the most pressing problem is the prevention of emigration by the improvement of home conditions and the re-distribution of their population within their own borders. Internal colonisation should take the place of colonial expansion. Outside Europe the character of the population received, and the nationality likely to predominate in the different quarters of the globe, becomes the most interesting phase of the labour question. The great preponderance of the Latin races in the immigration to South America appears likely to determine the future of that continent. British North America and Australia continue to receive a majority of the Anglo-Saxon race, or of races sufficiently akin to be easily digested by Anglo-Saxon powers of assimilation. These countries are more concerned with the voluntary character of the immigration than with its nationality. But the greater mixture of population in the United States, and the vastly larger volume of immigration, makes the process of assimilation there more difficult. In Africa, as in the Crown Colonies, immigration from India is likely to play an important part, and it may perhaps be said that the future of labour in the tropical and sub-tropical countries of the world lies between the Indian and Chinese peoples. If the Chinese can be induced to extend inwards instead of outwards, they will at once afford freer scope to the Indian emigrant, and help to keep back any eastward advance of the Slav. On the other hand, a continued Chinese movement outwards, combined with the existing movements of the coloured population, can scarcely fail to increase the serious difficulty, hitherto met to some extent by restrictive legislation, which attends all competition between white and coloured labour. If the re-distribution of their own population is the problem which European Governments have to solve, the relation between the Aryan and non-Aryan races is likely to be the most pressing among the future labour difficulties of the rest of the world.

These problems will require the earnest consideration of English statesmen in connection with our interests outside our own country, but there does not seem at present a body of evidence sufficient to warrant any measure for limiting or regulating the migration into or out of the United Kingdom.

DISCUSSION *on* MR. DRAGE'S PAPER.

MR. F. HENDRIKS said that one of the most important lessons taught by the paper was that emigration did not tend to decrease population, but rather to promote an increased birth-rate. It would appear, indeed, that emigration left more room for the natural expansion of the population in the mother country. Two salient examples of this were the United Kingdom and Norway, where the proportion of emigrants was much larger than in any other country, and where also the natural increase of the population was greatest. There was much consolation in Mr. Drage's figures of the alien population. Nothing was more striking than the fact that there was in England only 1 alien in 170 of the population, while the ratio in France was 1 to 34, or just five times as great. England ought therefore to be the last nation to complain of any superabundant influx of aliens, especially as she had so many colonies to provide for the expansion of her own people.

Hon. R. P. **Porter** said that, as was well known, the immigration problem was far more important in America than in England, and there, as the author had pointed out, the most serious difficulty was the class of immigrants. There was no doubt that the character of the immigration to the United States was deteriorating. The American people did not want Asiatics (this had been positively decided, irrespectively of any political party). They had, however, he regretted to say, been getting for a number of years a class of immigrants which was almost as demoralising. Formerly, when Europe had sent the choicest of its flock, America felt that it was a great advantage to the Republic, but now the journey had been made so much cheaper and easier, that they got a very different class of immigration. The restriction during the last two years had consequently been much greater. He believed these restrictions were necessary and right. The figures in the paper went down to 1892, but he had lately received the returns for the year ending 30th June, 1894, which showed a total immigration of something under 300,000; a marked decrease, since the census of 1890, when he had dealt with an immigration of about 5,000,000 for the ten years, or an average of 500,000 annually. This was the high-water mark of immigration, and it was doubtful if under existing conditions it would ever reach this number again. He expressed an interest in the exceedingly interesting and able paper of Mr. Drage, but had no criticism to make as to conclusions reached in relation to this problem as it affected England.

Mr. H. **Moncreiff Paul** wished to emphasise two points. First, as regarded Germany: one factor which had greatly tended to increase emigration was the existing military laws, the stringency of which caused many persons to endeavour to escape this service by migrating to other countries. Half the emigration from that country took place at the age when military service would have to be undertaken. The German emigrant was found to be a very useful colonist; wherever he went, while retaining his national peculiarities, he was always quite prepared to assimilate himself to his surroundings. The second point was that the Italian usually went to South America, where he found a climate and language somewhat akin to his own, and utilised his resources especially in wheat cultivation. It was well known that the development of this cereal in Argentina was due mainly to Italian settlers. Many Italians had also been attracted by railway labour to Switzerland, Austria, and other neighbouring countries, and they were always found to be employed in tunnel work, so much so, that notwithstanding the remarkably high death-rate which prevailed among the labourers in the Swiss tunnels, their satisfactory completion was due to the Italians, who were much less careful than those of other nationalities as to where they worked. Provided the wages offered were attractive, they would undertake this class of work when other races declined it. Concerning Chinese labour in America and elsewhere, these Asiatics, although leaving their homes in considerable numbers, never intended to remain and settle in the country where they sought a living—a national superstitious feeling always prompted them to return to die, or, at least, to be buried, in their native land. There was, in fact, a popular report that a considerable traffic in the shipment of coffins from San Francisco to China was at one time carried on.

Mr. N. A. **Humphreys** said that perhaps the most interesting point brought out by Mr. Drage was the fact that it was not the countries with the greatest density of population which had the highest emigration rate; that Belgium and England, for instance, which had the densest population, had a remarkably low emigration rate. The main result of the paper was, however, to show how idle was the outcry against alien immigration in England. This conclusion was completely justified by the census statistics, and with reference to these he would like to say a few words. All those who had argued for prohibition of alien immigration had attempted to throw discredit on the census statistics, by simply declaring that it was impossible that they could be true. From his own census experience,he must express his conviction that the figures were in the main strictly reliable. In fact, he considered the census number of "foreigners" was probably overstated, for the following reason: The question was asked in the Census Schedules, of any person born abroad, whether he was an English subject or no. This question was in many instances left unanswered; and the Census Commissioners in 1891 decided that all such persons should be classified as foreigners, although many of them were undoubtedly of English nationality, but born abroad. At previous enumerations it had rightly or wrongly been the practice to allow the surrounding facts to decide in a great measure whether the person should be treated as a foreigner or no; for instance, a person with an English name born abroad was formerly treated as English. Both methods of course involved errors, due to defective schedules, and the matter had been carefully considered before the course adopted in 1891 was definitely decided upon. For this reason, however, he believed that the number of foreigners in England at the time of the census in 1891 was rather over than under-stated. Finally he entirely agreed with Mr. Drage that the labour difficulties which were arising in various countries, with varying degrees of intensity, and which engendered opposition to alien immigration, were really questions calling for serious consideration by statesmen, which could only be solved by improved organisation in each country.

Mr. S. **Bourne** was glad to find that the author had come to the conclusion, which was only in accordance with the facts, that the immigration of foreigners was not numerically of practical importance. Looking back to the fact that so much of the commercial greatness of England had arisen from the reception given to refugees from foreign countries (who had introduced the silk trade, and opened up many other fields of labour), he thought that the knowledge and skill thus imported more than balanced any slight injury we might have suffered from them. The country which drew so much of the wealth of other lands, ought not to stand aghast at the small immigration now described. Two complaints were, he agreed, well founded, viz., that the decay of agriculture in England was due to its being supplanted by the produce of foreign countries (largely the result of employing our own wealth in those countries), and that the large number of immigrants who undertook clerical labour increased the competition in commercial centres. But these last brought with them notions of economy and skill, and their example ought to be a great stimulus to the young men of our own country. Alluding to another point, the character of the immigrants required a great deal of discrimination. He did not quite agree with the Americans, who desired to have only the best people; for emigration to a freer atmosphere often transformed into good subjects children brought up in vicious habits. In sparsely settled countries population was a great element of wealth, but the increase of population in our densely crowded cities was a very serious evil. This concentration of the people within limited spaces subjected them to an enormous loss of labour through the early decease of a number of children. Any breeder of stock would consider that he was suffering a very serious injury were he to lose a similar proportion of young cattle. The writer had alluded to the fact that unregulated immigration led to an increase of crime; this was not generally of the worst kind, but arose to a great extent from irascibility of temper. Much of it was indigenous to the country whence the immigrants came, and would die out in process of time. But the moral principles of those who came was of very serious import, and the character of our great towns in which alien immigration was most extensive was suffering a very rapid deterioration through their presence. So long as the foreigners who settled here would conduce to the welfare of the country they should be allowed to remain, but the moment they infringed on a correct line of conduct they ought to be expelled. Very much of the immorality of our great towns was maintained by these foreigners. In many cases persons brought before the magisterial bench had been referred to the consuls representing their country to be sent back to the continent, but the vast majority returned to London without having even left our shores. He thought that there should be some means of expelling from the country those who thus abused our hospitality.

Mr. F. DEBENHAM wished to point out how extremely opportune Mr. Drage's paper was. There was at present a very keen competition for votes among politicians of all parties, and they were only too apt to seize upon the superficial idea, which appealed so strongly to working men, that any large introduction of foreign labour must necessarily lower wages. Mr. Drage's paper was particularly opportune in showing how very small this immigration really was. So far as it affected the labour market it was confined to three centres, London, Manchester, and Leeds. Not the least interesting portion of the paper was that which showed how useful, economically, the Polish and Jewish immigration into the East End was. He would instance one trade, the German mantle trade. It had been done in Germany simply and solely because of the extra skill and lower price of German labour; a very large portion of the materials used had been manufactured in this country, imported into Germany subject to duty, made up and brought back, and sold under the price of our own produce. For the last ten or fifteen years that had been an enormous trade in this country. It was obvious that if we could supply that trade here at a sufficiently low price to create a wholesome competition, an immense economic advantage was at once developed. Our own trade in export ready-made clothing had been positively created in London and subsequently transferred to Leeds by the Polish and German Jews.

Mr. G. H. PERRIS thought that the government officials were not entitled to quite all the credit of brushing away the bogey of pauper alien immigration. Five years ago its small dimensions could not have been proved by government statisticians. It was shown some years ago before the Select Committee that whole classes of returns, supposed to be taken under the Act of William and Mary, were not taken at all in the port of London, and that in fact there could then be no accurate computation of the balance of immigration and emigration. Only during the last few years had that deficiency been made good. Thanks, however, to Mr. Charles Booth and the investigators organised by him and to some others, the qualitative objection to these immigrants had been almost disposed of, it being shown that they had created certain industries of their own in the East End and elsewhere. Mr. Perris alluded to one of the publications of the United States Census Bureau, containing criminal statistics of aliens in that country. Mr. Drage had hardly defined what class of immigrants he considered to be "undesirable." These American returns showed a remarkably small amount of crime amongst the Russian and Polish immigrants—a class usually considered as "undesirable"—far less than amongst the Irish. He would like to add one word of warning against too hasty generalisations as to "waves" of immigration. They could hardly doubt that had Dr. Charles Pearson lived to witness recent events in the far east, some of the generalisations of that kind in his book on "National Life and Character" would have been much modified.

Mr. JOHN B. MARTIN, as an official of the Society, wished to add to the last speaker's remarks that no one had been more persistent than this Society in endeavouring to obtain from the Government accurate returns of emigration and immigration, especially in the case of our eastern ports. He thanked Mr. Humphreys for having admitted them behind the scenes as regarded the census; he had no doubt that while the results were in the main correct, they had sometimes to make shots. With regard to the difficulty in ascertaining nationality at the census, he could give his own experience: of the members of his household one had been born in Holstein and another in Savoy, at a time when those countries were under a different State to what they are at present. This gave rise to considerable difficulty in deciding their nationality. Mr. Drage's paper invited an excursion into the domains of economics; he would not follow Mr. Stephen Bourne in this direction, but would content himself with reminding some of the audience that the old motto of the Society laid it down that it was their duty to collect facts, leaving it to others to draw inferences.

A cordial vote of thanks for the paper was given to Mr. Drage, who acknowledged it, and the proceedings terminated.

The COLLEGES *of* OXFORD *and* AGRICULTURAL DEPRESSION.

By L. L. PRICE, ESQ., M.A.

[Read before the Royal Statistical Society, 15th January, 1895.
FREDERICK HENDRIKS, ESQ., F.I.A., Vice-President, in the Chair.]

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I.—INTRODUCTORY REMARKS.

THE figures, which I submit to the consideration of the Royal Statistical Society to-day, may be regarded in some sense as an expansion of those contained in a paper read three years ago.[1] In that paper I attempted to exhibit the results of agricultural depression as shown by the accounts of a single Oxford College, and I alluded to the fact that for some time past the accounts of the Oxford and Cambridge Colleges had been published year by year. The period, over which those published accounts now extend, embraces more than a decade; and I have thought that it may be of some interest to examine their bearing on the same subject.

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[1] See Journal for March, 1892.

For reasons, which I stated in my former paper, the accounts only admit of broad conclusions, and the evidence furnished by them should not be employed without reservation. On this point I may perhaps be allowed to quote the actual words used in my previous paper. The accounts, I there stated, "necessarily relate "to totals rather than to the items of which those totals are com"posed, and there is reason for believing that the different Colleges "follow different methods of classification and arrangement in "arriving at the totals presented under the various headings of the "published accounts. Although, therefore, the comparison between "the accounts of the same College in different years may be made "with some confidence, the comparison of the accounts of one "College with those of another, and the addition of the totals of "the various items, as they appear under the same head in the "accounts of different Colleges, so as to form a grand total, may be "vitiated by a difference in the methods of arriving at those totals "which have been adopted by different Colleges. Examples might "be furnished in illustration, but I will now content myself with "entering a caution against any indiscriminate use of the figures "given in these published accounts."

I will commence my present paper by repeating that caution, which is now directed against myself. It is indeed from a fear of being unwittingly betrayed into errors, which more intimate knowledge might avoid, that I refrain from instituting any comparison between the accounts of the two Universities; but I can imagine that such a comparison would be interesting and fruitful. I propose to confine my own attention to the particular University with which I am connected; and, for reasons that will be more apparent later, I think, in spite of the caution I have entered, that any conclusions, which may be drawn in this paper respecting the extent and consequences of agricultural depression, will be within rather than outside the mark.

The first table, which I propose to submit, is one showing the "External Receipts and Expenditure" of the University and the Colleges of Oxford for the years 1883 and 1893.

II.—EXTERNAL RECEIPTS AND EXPENDITURE OF THE COLLEGES.

I.—*External Receipts and Expenditure* (*omitting Shillings and Pence*), 1883 *and* 1893.

College.	A. Gross External Receipts.		B. External Expenditure.		C. Net External Receipts.	
	1883.	1893.	1883.	1893.	1883.	1893.
	£	£	£	£	£	£
University	7,110	5,790	1,933	1,960	5,177	3,830
Balliol	6,427	5,849	1,546	1,992	4,881	3,857
Merton	19,157	24,668	5,280	12,008	13,877	12,660
Exeter	5,078	4,485*	1,326	959	3,752	3,476
Oriel	11,888	9,657	6,230	6,091	5,658	3,566
Queen's	14,653	14,402	4,431	5,786	10,222	8,616
New	32,453	28,736	14,146	13,503	18,307	15,233
Lincoln	5,753	4,794	1,357	1,534	4,396	3,260
All Souls	27,870†	24,486	7,424	10,936	20,446	13,550
Magdalen	38,576	47,866	15,062	23,499	23,514	24,367
Brasenose	10,250	13,492	4,423	4,515	5,827	8,977
Corpus	19,057	14,690	7,109	4,840	11,948	9,850
Christ Church	49,339	42,221	21,971	16,819	27,368	25,402
Trinity	6,955	6,592	1,759	1,740	5,196	4,852
St. John's	20,654	19,927	8,489	11,495	12,165	8,432
Jesus	11,741	10,144	3,289	2,480	8,452	7,664
Wadham	5,362‡	4,651‡	1,162	2,083	4,200	2,568
Pembroke	3,834	3,462	342	574	3,492	2,888
Worcester	5,036	3,665‡	1,791	1,467	3,245	2,198
Total	301,193	289,527	109,070	124,281	192,123	165,246
The University	17,207	15,419	2,894	3,837	14,313	11,582
Total	318,400	304,946	111,964	128,118	206,436	176,828

* Including interest on Pension Fund and Local Rates Composition Fund.

† Including an advance of 1,500*l.* from Land Commissioners for College Building.

‡ Including interest on furniture.

From this table it is apparent that in the year 1893 the gross external receipts of the Colleges of Oxford were, exclusive of the University, some 11,000*l.* less than they had been in 1883, and that the inclusion of the University increases the diminution to some 13,000*l.* By deducting the "external expenditure" from the gross receipts, we reach the net amount of those receipts available for application to the various purposes discharged by the University and the Colleges. Again excluding the University, the diminution in the net receipts so determined amounts to some 26,000*l.*, and, including the University, to some 29,000*l.* These are considerable sums; but they do not represent so large a percentage as we might expect. The decline in the gross receipts is not more than 4, and in the net receipts not more than 14 or 15 per cent. The figures, however, only illustrate the depression in its broadest aspect; and they require further investigation.

It is true, on the one hand, that the year 1893, the latter of the two years, was a year of drought, for which it is difficult to find a parallel within the present century. But on the other hand the former year—that of 1883—does not represent the commencement of the depression, which may be carried back for some years earlier; and the fall in the price of wheat during the autumn of 1894 bids fair to leave an impress on College revenues scarcely less deep than that produced by the drought of the previous year. And so, even if the figures be taken as they stand, it is probable that they do not exaggerate the depression, but conceal its full extent.

This opinion is strengthened by closer examination. There are three Colleges included in the list, the gross external receipts of which have increased during the period under review; and, in the case of two of the three, the net receipts have also increased. If these three Colleges are removed from the comparison, the figures will stand as follows. Excluding the University, the diminution in the gross receipts of the Colleges amounts to 29,000*l.*, instead of 11,000*l.*, and the diminution in the net receipts to 29,000*l.*, also instead of 26,000*l.* The conclusion that an increase in the gross receipts of these three Colleges, amounting to some 18,000*l.*, is a phenomenon, which has been reached, not in consequence, but in spite, of agricultural depression, is confirmed by yet closer inquiry. For there are also Colleges in the table, which have sustained diminutions of net receipts amounting to over 30 per cent., and the "external receipts," as set forth in the published accounts, comprise other sources of revenue besides agricultural estates.

At this point it will be convenient to supply the actual headings of the external receipts and of the external expenditure. They are contained in the following schedule:—

Schedule of Forms.

. . . . . . College.

Abstracts of Receipts and Payments for the Year ending 31st December . . . .

General Account I. (Revenue.)

Receipts.

A. External.
  I. Estates. *£ s. d.*
    (1.) Lands let at rack rent
    (2.) Lands let on beneficial leases
    (3.) Houses let at rack rent
    (4.) " let on beneficial leases
    (5.) " and sites of houses let on long leases
    (6.) Fines and fine loans
    (7.) Copyholds for lives
    (8.) " of inheritance
    (9.) Leaseholds held by the College
    (10.) Tithe rent charge
    (11.) Quit rents, rent charges, and other fixed payments
    (12.) Timber and underwood
    (13.) Minerals
    (14.) Other properties (describing them)
  II. Dividends and interest on investments

Payments.

A. External.
    (1.) Charges in respect of estate loans
    (2.) Charges in respect of fine loans
    (3.) Lessees' annuities
    (4.) Quit rents
    (5.) Miscellaneous rents and rent charges
    (6.) Rates, taxes, and insurance
    (7.) Agency and management
    (8.) Law charges
    (9.) Repairs and improvements
    (10.) Payments to vicars and augmentation of benefices
    (11.) Donations to churches, schools, &c.
    (12.) Other expenditure in respect of estates (describing it)

From an examination of this schedule it is evident that the external receipts and expenditure of the Colleges do not relate exclusively to agricultural property: and that changes affecting this species of income in particular may be concealed by alterations in the revenue arising from other sources. It should also be noted—and to this point we shall have to return—that, in addition to such alterations, the relations between the quantities of the different species of property do not remain unchanged from year to year, and that therefore we cannot be certain, in comparing the accounts, that we are dealing with figures which can be treated as similar quantities at the beginning and end of a decade. With regard to the University in particular, attention may be called to the fact that the heading of "other receipts" from external sources was composed of different items in 1883 from those of which it consisted in 1893. In 1883 the items were as under:—

	£	*s.*	*d.*
Benefactions	2	13	4
University Press	5,000	–	–
Oxford Market	300	–	–
Wine Licenses	263	5	–
Sundries	56	18	–
Total	£5,622	16	4

In 1893 the total amounted to 5,071*l.* 14*s.* 6*d.*, and was made up of three items only, viz., 5,000*l.*, as before, from the University Press, and 2*l.* 12*s.* from Benefactions, and 69*l.* 2*s.* 6*d.* from Sundries. The sums derived from the Market and from Wine Licenses, amounting in 1883 to over 500*l.*, or some 10 per cent. of the total revenue placed under the heading of "other receipts," had disappeared owing to changes effected during the interval. This example may serve as one illustration of the difficulty of drawing exact comparisons between different years, and may emphasise the necessity of extreme caution in establishing conclusions. But it will, I believe, be found, notwithstanding such obstacles to exact inquiry, that the figures we shall investigate will lead us to conclusions within and not outside the mark. The inference that the depression has been worse than the figures would seem to show will, in most cases, for reasons that we shall adduce, be a safe and not a delusive inference.

III.—Receipts from Agricultural Property.

We may make a further approach to exactness by selecting from the External Receipts, as arranged in the schedule, those headings which relate more particularly to agricultural property. In the following table (II) are given the figures for the years 1883 and 1893 of the receipts under the headings numbered (1), (2) and (10) in the schedule, the receipts, namely, from "Lands let at "Rack Rent," "Lands let on Beneficial Leases," and from "Tithe "Rentcharge," and to these are added, for a purpose which will appear, the receipts from Dividends.

II.—*Receipts from Lands and Tithe* (*and Dividends*)

	Lands at Rack Rent.		Lands on Beneficial Lease.		Tithe.	
	1883.	1893.	1883.	1893.	1883.	1893.
	£	£	£	£	£	£
University	3,558	3,404	7	—	870	301
Balliol[a]	2,562[a]	2,014[a]	—	—	1,620	1,170
Merton[a]	7,705	10,159[a]	1,662	426	5,429	4,232
Exeter	3,701	2,550	—	—	807	449
Oriel	7,281	5,700	683	392	1,520 350[c]	1,033 337[c]
Queen's	9,816[d]	7,944	333	220	868	557
New	19,174[e]	16,611	81	—	9,580	7,152
Lincoln[a]	3,633	2,540[a]	—	—	286	187
All Souls[a]	19,024[f]	15,256[a]	387	—	2,310[g]	1,766
Magdalen	15,514	25,939[h]	3,489	83	2,413	1,182
Brasenose[a]	2,951[a]	6,226[a]	1,647	746	24	11
Corpus	15,832	11,897	280	—	52	—
Christ Church	21,347	20,094	3,465	374	16,124	18,649
Trinity	2,680	2,538	—	—	3,051	2,302
St. John's	8,889	7,841	449	18	584	430
Jesus	4,833	4,060	—	—	2,091	1,123
Wadham	3,420[i]	2,586	—	—	1,093	743
Pembroke	2,416	1,982	—	—	354	227
Worcester	4,192	2,886	—	—	—	—
Total	158,528	152,227	12,483	2,259	49,426	41,851
The University	8,842	6,971	—	—	819	738
Total	167,370	159,198	12,483	2,259	50,245	42,599

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[a] These colleges reckon under item (12) of expenditure, viz., *other expenditure on estates*, sums for abatements or remissions, and in the table these sums have been deducted from the receipts from lands at rack rent.

[b] Exclusive of certain items which seem to be scarcely related to the subject of the present paper.

[c] Charged on rectory of Purleigh for provost's stipend.

[d] Under "other properties" appears an item, Letcombe Farm Estate 768*l.*, which is not included in the table.

[e] Under "other properties" appears an item, farming profits, 174*l.*, not included in this table.

This table exhibits a fall in the total receipts from Lands and Tithe (excluding the University) of 24,100*l.*, a fall in Tithe alone of 7,575*l.*, in the Receipts from Lands alone of 16,525*l.*, in the Receipts from Lands let at Rack Rent alone of 6,301*l.*, and in the Receipts from Lands let at Rack Rent and Tithe combined of 13,876*l.* The fall, measured by percentages, is for the total receipts some 11 per cent., a similar percentage for the receipts from Lands alone, a fall of 7 per cent. for the Lands let at Rack Rent and the Tithe combined, a fall of 16 or 17 per cent. for the in 1883 *and* 1893 (*omitting Shillings and Pence*).

Lands and Tithe.		Lands.		Lands at Rack Rent and Tithe.		Dividends.	
1883.	1893.	1883.	1893.	1883.	1893.	1883.	1893.
£	£	£	£	£	£	£	£
4,435	3,705	3,565	3,404	4,428	3,705	660	531
4,182	3,184	2,562	2,014	4,182	3,184	368 [b]	273
14,796	14,817	9,367	10,585	13,134	14,391	1,981	4,063
4,508	2,999	3,701	2,550	4,508	2,999	210	529 [b]
9,834	7,462	7,964	6,092	9,151	7,070	328	68
11,017	8,721	10,149	8,164	10,684	8,501	450	933
28,835	23,763	19,255	16,611	28,754	23,763	1,117	572
3,919	2,727	3,633	2,540	3,919	2,727	795	629
21,721	17,022	19,411	15,256	21,334	17,022	3,978 [b]	3,497
21,416	27.204	19,003	26,022	17,927	27,121	1,722	1,426
4,622	6,983	4,598	6,972	2,975	6,237	2,518	2,092
16,164	11,897	16,112	11,897	15,884	11,897	1,061	2,092
40,936	39,117	24,812	20,468	37,471	38,743	361	103
5,731	4,840	2,680	2,538	5,731	4,840	42	195
9,922	8,289	9,338	7,859	9,473	8,271	622 [b]	1,136 [b]
6,924	5,183	4,833	4,060	6,924	5,183	397	317
4,513	3,329	3,420	2,586	4,513	3,329	71 [b]	180 [b]
2,770	2,209	2,416	1,982	2,770	2,209	733	657
4,192	2,886	4,192	2,886	4,192	2,886	108 [b]	88 [b]
20,437	196,337	171,011	154,486	207,954	194,078	17,522	19,381
9,661	7,709	8,842	6,971	9,661	7,709	262	472
30,098	204,046	179,853	161,457	217,615	201,787	17,784	19,853

[f] This sum is reached by deducting, as shown in the accounts for 1883, the arrears of rent paid, and the abatements made, and adding the arrears of 1882 paid in 1883 and the rcentages paid by the tenants on building and drainage improvements.

[g] Calculated somewhat similarly to receipts from lands.

[h] A sum of 884*l.* for loss on farms in hand has been deducted from the receipts from nds at rack rent to reach the sum given in the table.

[i] Under other properties appears a sum of 131*l.*, being profit on cultivation of vacant rms, which is not included in the table.

Tithe alone, and a fall of only 4 per cent. for the Lands let at Rack Rent alone. The inclusion of the University produces a slight increase in the percentage in most cases; but the increase is by comparison unimportant, and we may confine our consideration henceforth to the Colleges.

The increase in the percentage of diminution produced by adding the Tithe to the Lands at Rack Rent is significant, but its significance can only be fully appreciated when taken in conjunction with the increase produced by including in the totals the

Lands let on Beneficial Lease. The addition of the figures for this last item is sufficient to augment a percentage of 4 per cent. for the Lands let at Rack Rent alone to a percentage of 11, and a similar effect is produced by adding the same figures to those for the Lands let at Rack Rent and the Tithe combined. The percentage is in this case increased from 7 to 11. Now the fall in the Tithe alone is some 16 or 17 per cent.; and yet, when the Tithe is merged with the Lands let at Rack Rent, the percentage falls from 16 to 7. What, then, is the explanation of the riddle? It is simply this. Between 1883 and 1893 the amount of land let on beneficial lease has been largely diminished; and this diminution is shown by a fall in the receipts from lands so let from 12,483*l.* in 1883 to 2,259*l.* in 1893.

IV.—THE BENEFICIAL LEASE.

In my former paper I described the general character of the system of letting lands on beneficial lease, which was at one time the prevailing, if not universal, practice of the Colleges. Its essential feature was, I stated, the payment of the major portion of the rent at fixed intervals of years instead of year by year; and this feature received the condemnation of Adam Smith in his *Wealth of Nations*.[3] The periodical fine obtained for the renewal of the lease represented this major portion, and the annual reserved rent was but small in comparison. It is this annual reserved rent which appears in the figures for Lands let on Beneficial Lease in Table II, and the largeness of the decline in the sum is due to the fact that, during the period covered by the table, the process of substituting rack rent tenancies for beneficial leaseholds has been rapidly advancing, until the remaining leaseholds are few in number and insignificant in amount. This change might have been expected to result in a considerable increase in the receipts derivable from lands let at rack rent; and the increase has only been concealed by the effects of agricultural depression. Hence it is that the fall between 1883 and 1893 appears so small, if we look at the receipts from Lands let at Rack Rent alone, and that a combination of these with the Tithe reduces a fall of 16 or 17 per cent. to less than half that percentage. Hence, too, it is that the figures are well within the limits of the actual facts: and this contention is confirmed by a closer inspection of the details of the table.

Three Colleges show an increase in the total receipts from Lands and Tithe, and they are the same as those which, as we saw, exhibited an increase in gross external receipts. In the case of one the increase is insignificant, amounting to some 21*l.*, but in that of another it amounts to 5,788*l.*, and in that of a third to 2,361*l.* The total increase of the three Colleges is 8,170*l.* If we now turn to the figures for the Tithe alone, we find that in the case of one of the three Colleges the tithe was, and is, "*une quantité* "*négligéable*," while in that of the others it has declined by 1,197*l.* and 1,231*l.* respectively. The total diminution in the Tithe is 2,441*l.* On the other hand the increase in the receipts from Lands let at Rack Rent has been, in the case of one of the three Colleges, from 7,705*l.* to 10,159*l.*, in that of a second from 15,514*l.* to 25,939*l.*, and in that of the third from 2,951*l.* to 6,226*l.*, making a total increase of 16,154*l.* The explanation of these figures is not far to seek. The increase in the total external receipts might conceivably be explained in part by advantageous sales of land, and in that event we should expect to see the figures for Dividends contained in the last columns of the table increase. For, when a College sells land, the sale is subject to the assent of the Board of Agriculture, which invests the proceeds in the purchase of stock held on account of the College. The increase in the dividends received by one of the three Colleges, from 1,981*l.* to 4,063*l.*, is probably due in part to this; but, on the other hand, in both the remaining cases there has been a diminution, and not an increase, in the figures for Dividends. By far the larger part of the explanation is accordingly to be discovered in the diminution of the receipts from Lands held on Beneficial Lease, which marks the termination of that tenure, and the substitution of rack rent tenancies. In the case of one College these receipts have fallen from 1,662*l.* to 426*l.*, in that of the second from 3,489*l.* to 83*l.*, and in that of the third from 1,647*l.* to 746*l.* This represents a total diminution of 5,543*l.*

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[3] Book v, chap. ii, part ii, Article 1. The practice was partly necessitated in the case of the Colleges owing to their inability, imposed by law, to grant leases for long periods.

But the argument may be yet further strengthened by investigating the cases of other Colleges. The decline in the total receipts from Lands and Tithe, for example, at a fourth College is comparatively trifling, and the Tithe has actually increased by 2,525*l.* —an increase which is perhaps partly due to some accident of collection. But a diminution of the Receipts from Beneficial Leases by 3,091*l.*, is sufficient, setting aside this increase of Tithe, to account for the smallness of the decline in the total receipts. Again we may select other examples, where the influence of the Beneficial Lease can without difficulty be eliminated. In the case of a fifth College the figure under this head for 1883 is trifling, and nothing at all appears in 1893. The decline, however, in the receipts from Lands let at Rack Rent amounts to 3,768*l.*, and the decline in the receipts from Lands and Tithe combined to 4,699*l.*, from revenues previously consisting respectively of 19,024*l.* and

21,721*l.* In the case of one more College, where the Tithe is unimportant, and the Lands let on Beneficial Lease were small, and now are nil, the Lands at Rack Rent have fallen from 15,832*l.* to 11,897*l.*, or some 25 per cent. In the case of yet another, where there neither is nor was Tithe or Beneficial Lease, the fall amounts to 1,306*l.*, from a previous revenue of 4,192*l.* Both by negative and by affirmative evidence, then, it is clear that the change from Beneficial Lease to Rack Rent has served to conceal the full effects of the depression; and, by excluding the three Colleges mentioned in the previous paragraph from the table, the fall in the receipts from Lands at Rack Rent becomes 22,455*l.* instead of 6,301*l.*, and the fall in the total receipts from Lands and Tithe combined 32,270*l.* instead of 24,100*l.* The fall thus becomes one of 20 instead of 4 or 11 per cent.

It may be of interest to compare these results with the anticipations formed twenty years ago, at the time of the Duke of Cleveland's Commission, of the prospective increase in the incomes of the Colleges likely to be occasioned by the termination of the Beneficial Leases and their replacement by Rack Rent Tenancies. In my former paper I instituted such a comparison in the case of one College alone, but the results are perhaps more significant when the basis of comparison is enlarged to embrace all the Colleges. On the 31st December, 1871, the rental of the corporate lands of the Colleges then let at Rack Rent amounted to 125,148*l.*, and the estimated annual rack rent value of the lands then let on Beneficial Lease was 107,471*l.* These two sums formed together a total of 232,619*l.*, while the actual total receipts from Lands shown in Table II for the year 1893 are 154,486*l.* It must, no doubt, be borne in mind that the Colleges may conceivably have diminished the amount of their landed property during the interval by sales, and that they have not yet, by terminating all their beneficial leases, entered into the full prospective advantage which the Commissioners anticipated. But, after making allowance for both these circumstances, the figures are significant and afford a fresh illustration of the proverbial liability of prophecy to err.

It is not possible to pronounce definitely whether the landed property of the Colleges has increased or diminished in quantity during the interval.[3] The opinion may perhaps be hazarded that it has diminished rather than increased; for the Colleges have obtained a permission, of which they have largely availed themselves, to employ the stock realised by the sale of lands before or since the permission was given, for other purposes than that to which they were once confined, the re-purchase of other real property. By the Universities and College Estates Amendment Act of 1880 they are allowed to borrow from the stock for purposes of improvement, and to substitute loans of this character for monies raised by mortgage, subject to the condition of replacing the stock by annual instalments. These transactions are continually proceeding, and serve to conceal, or at least postpone, any increase in the amount received from Dividends, which might otherwise be expected to follow on a diminution of the quantity of landed property held by the Colleges. This amount in 1893 shows but a trifling increase on that in 1883, the figures for the two years being respectively 19,381*l.* and 17,522*l.* So far, therefore, as the Colleges have diminished their holding of land, we should expect the anticipations of the Duke of Cleveland's Commission to be disappointed; but it is impossible to define the precise amount of change to be attributed to this particular influence, and, in any event, it is certainly inadequate to account for a deviation of upwards of 80,000*l.*

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[3] The accounts show receipts from sales of land, &c., in 1883 of seven thousand pounds, in 1892 of twelve, and in 1893 also of twelve thousand pounds. The sums expended in the three years respectively on purchases of land, houses, and ground rents, were six, eleven, and ten thousand pounds or upwards. But it is impossible to ascertain from the accounts the quantities to which these figures refer. The acreage of the Corporate Landed Estates of the Colleges is given by the Commission in 1871 as 168,468 acres.

The other possible cause admits of more exact appraisement. The total revenue derived from Lands let on Beneficial Lease is now comparatively insignificant, and amounts to little more than 2,000*l.* This belongs to seven Colleges only out of the total number of nineteen included in the table, and the remaining twelve have now no lands at all let upon this tenure. It might, therefore, be fairly expected, had not agricultural depression intervened, that by this time the larger part of the increase anticipated by the Commission would have been realised.

And the Commissioners themselves furnish separate figures of the prospective increase for succeeding quinquennial periods ending on the 31st December in the years 1875, 1880, 1885, and 1890 respectively. The figures, unfortunately for the purposes of this paper, do not distinguish between the house and the landed property of the Colleges, and one College, St. John's, is excluded, because the materials for calculation were not furnished. In the calculation of the total prospective increase, however, a sum of 5,000*l.* is entered for this College, and we may perhaps, without running any great risk of error, treat this sum as the figure to be added for the College at the present time, inasmuch as its Receipts from Lands let on Beneficial Lease appear in the table as amounting only to 18*l.* By the 31st December, 1890, then, the Commissioners anticipated a prospective cumulative increase of

98,840*l.*, and the addition of the 5,000*l.*[4] for St. John's College will bring up the figure to over 103,000*l.*, as compared with an "estimated "Rack Rent value of the Lands let on Beneficial Lease" in 1871 of 107,471*l.* After making allowance for the increase due to the House Property alone, the figures, when contrasted with the actual results, afford eloquent testimony to the reality of the depression.

The testimony may be confirmed by the particular figures relating to those Colleges to which we gave special consideration in this connection before. The totals of the Rental of the Lands let at Rack Rent and the Estimated Annual Rack Rent value of the Lands let on Beneficial Lease are given by the Commissioners in 1871 as 15,139*l.* for one of these Colleges, 31,420*l.* for another, 9,317*l.* for a third, and 39,817*l.* for a fourth. The actual receipts from Lands in 1893 were respectively 10,585*l.*, 26,022*l.*, 6,972*l.*, and 20,468*l.* The estimate of 1871 for the four Colleges taken together—which, it may be added, represent the bulk of the Beneficial Leaseholds in 1883[5]—would yield now a sum of 95,693*l.*, supposing that there had been no fall or rise in the Rental of the Lands then let at Rack Rent, and that all the leases were terminated: the actual result was 64,047*l.*, or more than 30,000*l.* less, and the Lands let on Beneficial Leases had diminished from 10,263*l.* to 1,629*l.*

By taking the separate quinquennial increases, as they are distinguished by the Commissioners, we may bring the figures into closer relation with those given in Table II; but allowance must in this case be made for the fact that these increases comprise house property as well as land. Excluding St. John's College, for which, as we saw, the Commissioners were not furnished with the necessary material, the amount of the increase, which was anticipated for the quinquennial periods ending in 1885 and 1890, was 65,831*l.*, or some two-thirds of the total anticipated for the whole twenty years. Excluding St. John's from Table II, the decrease in the receipts from lands between 1883 and 1893 is 15,046*l.* We may perhaps with safety draw the inference that the depression is responsible for a loss in 1893 of some 60,000*l.* or 70,000*l.* of prospective income for the Colleges as a whole. If the prospective increase had been fairly realised up to 1880, the fall in the receipts from lands between then and 1893 would amount to 40[6] rather than, as we calculated before for the decade comprised in the paper, 11 per cent. This may, however, be an extravagant supposition, as we do not obtain so great a fall in the case of those Colleges in Table II, where we are able to eliminate the disturbing influence of the Beneficial Lease; but on the other hand those instances show that, if 40 per cent. be above, 11 is, perhaps, in a greater degree, below the mark. A fall of 25 per cent. is by no means uncommon with these Colleges.

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[4] The estimated Rack Rent value of the houses belonging to St. John's and let on Beneficial Lease, is put in 1871 at 12,642*l.* This added to the 103,000*l.*, would bring up the total to more than 116,000*l.* It may be noted (*cf.* Table VIII below) that the diminution in the houses let on Beneficial Lease in the decade only amounts to about a fourth for all the Colleges, and in the case of St. John's is inappreciable.

[5] 10,263*l.* out of 12,483*l.*

[6] It should be noted that in 1877, when the Colleges were asked by Lord Selborne's Commission whether they desired to suggest any corrections of the

V.—THE YEAR 1893.

The objection may, however, be again raised that a comparison of two years is an insufficient basis on which to rest such conclusions. For reasons, which I previously adduced, I believe that the figures of the two years under, rather than over, represent the true position; for on the one hand the depression had commenced before 1883, and, on the other, I must in sorrow confess that the hope, on which I rashly ventured in my former paper, that we had then witnessed the worst, has since proved an amiable delusion. I shall not now repeat my mistake, or dare to anticipate that 1893 marks the nadir of agricultural fortunes. Of this at least we may unhappily be certain that, in some respects, 1894 may be scarcely less potent in its effects on agricultural rentals than 1893.

In order, however, to furnish a wider basis for calculation, I have taken out the figures for the Receipts from Lands throughout the period from 1883 to 1893 inclusive, and the annual average of the Tithe and of the Gross and Net External Receipts for the first three and the last three years. In Table III I shall give the figures for the Lands let at Rack Rent for each College for the whole period. In Table IV I shall add to these figures those for the Lands let on Beneficial Lease, thus completing the receipts from Lands, and I shall supply averages of the annual receipts for the first and the last three years. In Table V I shall furnish the averages for the first three and the last three years of the Tithe, which I shall contrast with the actual receipts in 1883 and 1893; in Table VI I shall supply similar averages of the Gross and Net External Receipts, and in Table VII I shall exhibit the results produced by removing from the tables the figures for the three Colleges, which have been distinguished before as marked by an increase of revenue.

returns made to the previous Commission, some doubt was expressed of the validity of the computations of the prospective increase. The objections appear to have been based chiefly on the contention that the increase would arise in *gross* and not *net* income, and would be partly counterbalanced by increased expenditure on repairs, &c., and by a diminution in the revenue derived from such items of receipts as fines (see Table VIII, p. 57). This contention would leave the argument in the text unaffected.

III.—*Receipts from Lands let at Rack Rent*, 1883-93. (*Omitting Shillings and Pence.*)

	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
	£	£	£	£	£	£	£	£	£	£	£
University	3,558	3,535	3,649	3,366	3,882	3,372	3,789	3,017	3,069	3,101	3,404
Balliol	2,562	2,310	2,269	1,824	2,059	2,103	2,136	1,927	2,126	2,078	2,014
Merton	7,705	8,721	8,191	9,006	9,304	9,328	10,151	11,989	11,475	11,088	10,159
Exeter	3,701	5,367	3,745	3,308	2,923	3,367	2,843	3,279	2,830	2,942	2,550
Oriel	7,281	7,790	6,940	6,829[a]	5,573[a]	7,052	6,848	6,926	6,708	6,807	5,700
Queen's	9,816	9,683[b]	10,525[b]	9,515	8,030	9,683	9,790	9,546	9,238	8,133	7,944
New	19,174	20,147	18,818	18,720	18,375	18,519	18,185	19,493	18,584	16,884	16,611
Lincoln	3,633	1,875[c]	2,955	2,982	3,007	2,917	2,822	2,805	2,843	2,778	2,540
All Souls	19.024	18,457	18,343	17,233	16,682	17,321	18,279	17,376	16,895	16,942	15,256
Magdalen	15,514	17,088	19,999	20,929[d]	20,070[d]	22,948[d]	25,304[d]	27,295[d]	27,781[d]	27,997[d]	25,939[d]
Brasenose	2,951	2,757	3,065	2,987	3,472	3,660	4,047	4,941	5,579	5,850	6,226
Corpus	15,832	16,411	14,560	14,797	13,924	15,222	15,394	15,179	15,217	15,029	11,897
Christ Church	21,347	23,785	25,130	23,066	25,213	23,897	24,872	24,127	23,720	22,882	20,094
Trinity	2,680	2,709	2,533	2,345	2,319	2,522	2,596	2,411	2,414	2,511	2,538
St. John's	8,889	8,486	8,574	8,062	8,593	8,269[d]	8,182[d]	9,202	9,138	8,980	7,841
Jesus	4,833	3,937	5,001	4,433	4,318	3,179	5,060	3,548	4,084	3,312	4,060
Wadham	3,420	3,441[e]	2,955[e]	2,851[e]	2,587[e]	2,584	2,732	2,984	2,977	2,992	2,586
Pembroke	2,416	2,393	2,314	2,045	2,088	1,974	2,324	2,434	2,156	1,814	1,982
Worcester	4,192	4,032	3,877	3,499	3,221	3,227	3,200	3,196	3,192	3,001	2,886
Total	158,528	162,924	163,443	157,797	155,640	161,144	168,554	171,675	170,026	165,121	152,227

[a] Deducting 44*l.* remitted to tenant on leaving farm. The deduction on this account in 1887 was 623*l.*

[b] Including a deduction of 1,577*l.* for estates in hand and valuations, and in 1885 a receipt is similarly included of valuations repaid, viz., 1,000*l.*

[c] Including a deduction of 1,511*l.* for farm in hand.

[d] Including a deduction for loss on farm in hand.

[e] Not including profit of 139*l.* on farm in hand. In 1883 this amounted to 130*l.*, in 1885 to 115*l.*, in 1886 to 58*l.*, in 1887 to 40*l.* A similar sum of 768*l.* for Queen's College in 1883 is not included in the table.

IV.—*Receipts from Lands*, 1883-93. (*Omitting Shillings and Pence.*)

	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	Average for first Three Years.	Average for last Three Years.
	£	£	£	£	£	£	£	£	£	£	£	£	£
University	3,565	3,542	3,656	3,373	3,889	3,372	3,789	3,017	3,069	3,101	3,404	3,588	3,191
Balliol	2,562	2,810	2,269	1,824	2,059	2,103	2,136	1,927	2,126	2,078	2,014	2,380	2,073
Merton	9.367	10,135	9,369	10,155	10,244	10,228	10,745	12,523	12,012	11,618	10,585	9,624	11,405
Exeter	3,701	5,367	3,745	3,308	2,923	3,367	2,843	3,279	2,830	2,942	2,550	4,271	2,774
Oriel	7,964	8,451	7,498	7,295	6,039	7,520	7,312	7,389	7,182	7,256	6,092	7,971	6,843
Queen's	10,149	9,907	10,691	9,762	8,255	9,923	9,894	9,750	9,444	8,335	8,164	10,249	8,648
New...	19.255	20,323	18,828	18,730	18,385	18,530	18,190	19,493	18,584	16,884	16,611	19,469	17,359
Lincoln	3,633	1,875	2,955	2,982	3,007	2,917	2,822	2,865	2,843	2,778	2,540	2,821	2,720
All Souls........	19,411	18,750	18,545	17,433	16,882	17,371	18,328	17,425	16,946	16,942	15,256	18,902	16,381
Magdalen	19,003	20,025	21,952	22,242	21,189	23,631	25,799	27,481	27,921	28,080	26,022	20,327	27,341
Brasenose	4,598	4,160	4,546	4,441	5,007	5,120	5,437	6,169	6,732	6,868	6,972	4,435	6,858
Corpus............	16,112	16,549	14,660	14,883	13,990	15,227	15,394	15,179	15,217	15,029	11,897	15,774	14,048
Christ Church	24,812	26,848	27,239	24,851	26,874	25,116	26,025	25,012	24,322	23,404	20,468	26,299	22,731
Trinity	2.680	2,709	2,533	2,345	2.319	2,522	2,596	2,411	2,414	2,511	2,538	2,641	2,488
St. John's	9.338	8,858	8,855	8,231	8,669	8,325	8,218	9,227	9,163	9,005	7,859	9,017	8,676
Jesus	4,833	3,937	5,001	4,433	4,318	3,179	5,060	3,548	4,084	3,312	4,060	4,590	3,819
Wadham........	3,420	3,441	2,955	2,851	2,587	2,584	2,732	2,984	2,977	2,992	2,586	3,272	2,852
Pembroke	2,416	2,393	2,314	2,045	2,088	1,974	2,324	2,434	2,156	1,814	1,982	2,374	1,984
Worcester	4,192	4,032	3,877	3,499	3,221	3,227	3,200	3,196	3,192	3,001	2,886	4,033	3,026
Total	171,011	173,612	171,488	164,683	161,945	166,236	172,844	175,249	173,214	167,950	154,486	172,037	165,217

V.—*Tithe.* *Average for* 1883-85 *and* 1891-93.

	Annual Average.		1883.	1893.
	1883-85.	1891-93.		
	£	£	£	£
University	816	841	870	801
Balliol	1,701	1,188	1,620	1,170
Merton	5,283	4,277	5,429	4,232
Exeter	711	539	807	449
Oriel	1,770	1,447	1,870	1,370
Queen's	748	542	868	557
New	9,454	7,357	9,580	7,152
Lincoln	268	200	286	187
All Souls	2,256	1,765	2,310	1,766
Magdalen	2,349	1,265	2,413	1,182
Brasenose	16	8	24	11
Corpus	52	20	52	—
Christ Church	15,314	18,929	16,124	18,649
Trinity	2,854	2,274	3,051	2,302
St. John's	569	449	584	430
Jesus	1,858	1,150	2,091	1,123
Wadham	936	731	1,093	743
Pembroke	312	235	354	227
Worcester	—	—	—	—
Total	47,267	42,717	49,426	41,851

Total for 1884 = 46,909*l.*, 1885 = 45,469*l.*, 1891 = 43,307*l.*, 1892 = 42,993*l.*

VI.—*Average of Gross and Net External Receipts,* 1883-85 *and* 1891-93.

	Gross Receipts.		Net Receipts.	
	Average, 1883-85.	Average, 1891-93.	Average, 1883-85.	Average, 1891-93.
	£	£	£	£
University	7,084	5,773	4,844	3,934
Balliol	6,256	5,914	4,317	4,132
Merton	19,328	24,522	13,572	13,800
Exeter	5,547	4,477	4,420	3,228
Oriel	11,822	10,365	5,690	4,252
Queen's	17,105	14,537	10,967	8,158
New	32,636	29,803	18,583	14,830
Lincoln	5,576	4,886	3,634	3,172
All Souls	26,101	24,228	19,077	14,971
Magdalen	37,424	48,102	21,871	24,279
Brasenose	10,138	12,911	6,665	8,887
Corpus	18,138	16,811	11,208	11,712
Christ Church	46,953	45,068	27,628	27,667
Trinity	7,030	6,252	5,318	4,557
St. John's	20,980	21,861	11,666	9,916
Jesus	11,328	9,941	8,156	7,358
Wadham	5,156	4,980	3,720	2,710
Pembroke	3,728	3,539	3,190	3,012
Worcester	4,865	3,776	3,221	2,410
Total	297,195	297,746	187,747	172,985

Gross External Receipts—Total for 1883 = 301,193*l.*, 1884 = 300,413*l.*, 1885 = 289,987*l.*, 1891 = 302,147*l.*, 1892 = 301,560*l.*, 1893 = 289,527*l.*

Net External Receipts—Total for 1883 = 192,133*l.*, 1884 = 192,173*l.*, 1885 = 178,943*l.*, 1891 = 177,932*l.*, 1892 = 175,776*l.*, 1893 = 165,246*l.*

VII.—*Results produced by Removing the three Colleges which have exhibited an Increase in Revenue.*

	Receipts from Lands at Rack Rent.						Total Receipts from Lands.						Average Annual Receipts from Lands.	
	1883.	1884.	1885.	1891.	1892.	1893.	1883.	1884.	1885.	1891.	1892.	1893.	1883-85.	1891-93.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Including the three Colleges	158,258	162,924	163,443	170,026	165,121	152,227	171,011	173,612	171,488	173,214	167,950	154,486	172,037	165,217
Excluding the Colleges	132,358	134,358	132,188	125,191	120,186	109,908	138,043	138,292	135,621	126,549	121,384	110,907	137,652	119,613

	Gross External Receipts.				Annual Average.		Net External Receipts.				Annual Average.	
	1883.	1891.	1892.	1893.	1883-85.	1891-93.	1883.	1891.	1892.	1893.	1883-85.	1891-93.
	£	£	£	£	£	£	£	£	£	£	£	£
Including the Colleges	301,193	302,147	301,560	289,527	297,195	297,746	192,123	177,932	175,776	165,246	187,747	172,985
Excluding "	233,210	217,774	215,352	203,501	230,305	212,209	148,905	130,726	128,086	119,242	145,639	126,018

These tables undoubtedly throw into relief the disastrous character of the year 1893. According to Table III the fall in the receipts from Lands let at Rack Rent amounted for that year to some 8 per cent., the figures for 1892 being 165,121*l.*, and for 1893 152,277*l.* The diminution in the receipts was thus more than 12,000*l.*, as compared with a diminution in 1892 of 4,905*l.* (or less than 3 per cent.), and in 1891 of only 1,649*l.*, and a positive increase in the previous year. According to Table IV, again, the Total Receipts from Lands were also some 8 per cent. less in 1893 than in the previous year, and the fall amounted to more than 13,000*l.* In 1892 it was 5,264*l.*, and in 1891 2,035*l.* Passing to the Gross Receipts from External sources we discover a similar result. These fell in 1893 from 301,560*l.* to 289,527*l.*, and the diminution accordingly amounted to 12,033*l.*, as compared with a decrease in the previous year of only 587*l.* The Net Receipts fell in 1893 from 175,776*l.* to 165,246*l.*, and in this case the diminution amounted to 10,530*l.* as compared with 2,156*l.* in the preceding year. If we now turn to Table VII, and exclude the three Colleges, which have exhibited an increase in revenue, the results are not less significant. The fall in the receipts from Lands let at Rack Rent in 1893 was 10,283*l.*, that in the total receipts from Lands was 10,477*l.*, that in the Gross Receipts 11,851*l.*, and that in the Net Receipts 8,844*l.* The corresponding figures for the previous year were 5,005*l.*, 5,165*l.*, 2,422*l.*, and 2,640*l.*

The disastrous character of the year 1893 may be shown in yet another way by contrasting the fall in the average annual receipts taken on a basis of three years with the fall obtained by comparing the first and the last years alone. The fall in the average Receipts from Lands amounts to 6,820*l.* as shown in Table IV, whereas the receipts in 1893, compared with those of 1883, exhibit a decline of 16,525*l.* A fall of 11 per cent. is thus transformed into a fall of only 4. In the case of the Net External Receipts a similar change is effected from a fall of 14 or 15 to one of 2 or 3 per cent., and in the case of the Gross External Receipts a fall of 11,000*l.* is changed into an increase of 551*l.* By excluding the three Colleges previously distinguished, we reach diminutions of 18,039*l.* in the average receipts from Lands, 18,096*l.* in the average Gross External Receipts, and 19,621*l.* in the average Net External Receipts, as compared with 27,136*l.*, 29,709*l.*, and 29,663*l.* respectively. If, again, we look back to Table III, and investigate the cases of particular Colleges, we discover in one instance a fall of 1,100*l.*, or some 16 per cent., and in another a fall of 3,132*l.*, or some 20 per cent., occurring in the year 1893: and we also find that one of the three Colleges excluded from the totals in Table VII, after exhibiting a steady increase in rental from

1883 to 1892, shows a decline of 2,000*l.*, or some 7 per cent. in 1893.

It must, therefore, be allowed that, compared with its immediate predecessors, as well as when contrasted with 1883, 1893 appears as a peculiarly disastrous year, and that 1892 compares unfavourably with 1891. But, on the other hand, it cannot be forgotten that, previously to 1883, there had been a year of similar disaster, and that, when a standard was sought by which to measure the results of 1893, a consensus of competent opinion pointed to the selection of the "black year" of 1879. Nor, again, must it be overlooked that the effects of a disastrous year are not confined to the receipts of that year alone. The Lady-day rents of 1894 have been scarcely less seriously affected by the drought of 1893 than the Michaelmas rents of that year, and the effects of two or three years, such as those which we have recently experienced, following one another in immediate succession, are likely to prove so far cumulative as to render any decided recovery gradual and problematic. Nor does the serious fall in the price of wheat during the autumn of 1894 seem calculated to assist that recovery. For such reasons I am inclined to believe that, if a comparison between 1883 and 1893 be a delusive index of the measure of agricultural depression, the error lies on the side of under rather than over-statement.

It is, of course, true that an accident of collection may unduly augment or diminish the receipts of one particular year, and this is perhaps more especially the case with regard to the Tithe. In 1883 the septennial average was almost at par, by 1893 it had fallen from 100*l.* 4*s.* 9¾*d.* to 74*l.* 15*s.* 2¾*d.* The fall, as shown by the septennial average, was thus some 25 per cent. In Table V the figures for 1883 and 1893 respectively are 49,426*l.* and 41,851*l.* and the decrease amounts to 7,575*l.*, or some 15 per cent. The difference between the annual average for the first three and the last three years is only 4,550*l.*, or some 10 per cent. If we now proceed to apply a method analogous to that pursued in Table VII, and exclude from our computation one College, which is unique in exhibiting an increase in the receipts from Tithe, amounting to between 2,000*l.* and 3,000*l.*, the falls of 15 and 10 per cent. become falls of 30 and 25 per cent.; and, allowing for possible changes occasioned by redemption of old Tithe, or acquisition of new, or of Tithe previously appropriated to some other purpose but that of the corporate revenues of the Colleges, these results do not diverge widely from the changes in the official average, and the fall in the average of the first three and the last three years exhibits a closer correspondence than the decline between the years 1883 and 1893 taken singly.

No doubt there may be similar accidents in the collection of rents; but it is probable that, where the arrangements for collection remain unaltered, these accidents do not differ widely from year to year, and some reliance may be placed on the chance that in the mass of the Colleges an accident affecting one may be balanced by one affecting another. Yet it remains probable, as respects these accidents of collection, that the drought of 1893 would exercise a prejudicial influence on the receipts of that particular year; and this consideration should, no doubt, be borne in mind when a contrast is instituted with 1883. More weight should be attached to the fact that 1883 did not mark the beginning, and that there is unfortunately too much reason to fear that 1893 will not be known as the end, of the depression.

VI.—THE EXPENSES OF REAL PROPERTY.

Before we proceed to make some attempt to discover the manner in which this fall in the receipts from their landed property has been met by the Colleges, it may be of interest to show the totals for the various items of External Receipts and Expenditure for the years 1883 and 1893. They will accordingly be given, together with those for 1892, in the following table (VIII).

This table, in which it will be noticed that the totals given differ from those supplied in Table I, because the shillings and pence have been omitted from the separate items of which the totals are made up, as well as from the totals themselves, discloses some interesting results.

It is at once evident that the bulk of the External Receipts of the Colleges consists of the revenue derived from Lands and Tithe. In 1883 the figures for these items amount to 219,737*l.* out of a total of 301,115*l.*, in 1892 to 213,696*l.* out of a total of 301,481*l.*, and in 1893 to 201,341*l.* out of a total of 289,458*l.* In all three years the proportion exceeds two-thirds of the whole.

The process, again, of running out the Beneficial Leases, to which we have so frequently alluded before, is evident in several of the items. The fall in the Receipts from Lands let on Beneficial Lease is a fact to which we have previously drawn attention, and is accompanied in this table by a diminution in the Receipts from Fines and Fine Loans from 11,938*l.* in 1883 to 2,411*l.* in 1892, and 1,858*l.* in 1893. A similar change has been proceeding in the case of the house property belonging to the Colleges, to which, indeed, some of the receipts from Fines may relate. The Houses let at Rack Rent have grown from 20,978*l.* in 1883 to 32,469*l.* in 1892, and 33,715*l.* in 1893, while the Houses let on Beneficial Lease have fallen from 2,436*l.* to 1,774*l.*

VIII.—*External Receipts and Expenditure*, 1883, 1892, *and* 1893.

Receipts.	1883.	1892.	1893.	Expenditure.	1883.	1892.	1893.
	£	£	£		£	£	£
(1.) Lands let at Rack Rent....	157,828	167,874	157,231	(1.) Charges for Estate Loans	14,182	18,081	18,371
(2.) Lands let on Beneficial Lease..........	12,483	2,829	2,259	(2.) Charges for Fine Loans..	16,344	18,294	15,009
(3.) Houses let at Rack Rent...	20,978	32,469	33,715	(3.) Lessees' Annuities	3,898	1,787	1,451
(4.) Houses let on Beneficial Lease............	2,436	1,867	1,774	(4.) Quit Rents........	247	213	212
(5.) Houses let on Long Lease..	12,299	19,940	21,388	(5.) Miscellaneous Rents and RentCharges	2,452	7,405	8,056
(6.) Fines and Fine Loans...	11,938	2,411	1,858	(6.) Rates, Taxes, and Insurance	15,190	16,149	16,473
(7.) Copyholds for Lives	712	457	483	(7.) Agency and Management	8,500	9,472	8,866
(8.) Copyholds of Inheritance .	774	1,362	635	(8.) Law Charges	1,961	1,424	1,194
(9.) Leaseholds held by the Colleges........	327	130	197	(9.) Repairs and Improvements............	26,279	35,763	34,975
(10.) Tithe Rent Charge	49,426	42,993	41,851	(10.) Payments to Vicars and Augmentations	8,951	7,013	6,861
(11.) Quit Rents, Rent Charges, &c.	4,603	2,270	2,319	(11.) Donations to Churches, Schools, &c...	6,237	4,129	4,221
(12.) Timber and Underwood..	4,400	5,750	4,083	(12.) Other Expenditure	4,742	5,968	8,504
(13.) Minerals............	297	537	568				
(14.) Other properties	3,110	878	775				
Dividends....................	19,504	19,714	20,322				
Total	301,115	301,481	289,458	Total	108,983	125,698	124,193

This increase in the Receipts from Houses let at Rack Rent, like the change from Beneficial Lease to Rack Rent in the case of the landed property, serves to mask the effects of the depression upon the totals of the External Receipts; and a similar result follows from that development of building property, which is shown by the growth in the Receipts from Houses and Sites of Houses let on Long Lease from 12,299*l.* in 1883 to 19,940*l.* in 1892, and 21,388*l.* in 1893. The total receipts from house property have increased from 35,713*l.* in 1883 to 56,877*l.* in 1893—by a sum, that is, of 21,164*l.*—while the total receipts from lands have fallen in the same period to the extent of 10,000*l.*

There has also apparently been some falling in of copyhold property in the interval; but the receipts from Timber and Underwood do not exhibit any notable difference, and those from Quit Rents and other Rent Charges, if we allow for the sum of

1,783*l.* included under that heading in the figures of 1883, but really representing percentages paid by tenants as interest on improvements, and properly falling under the category of Receipts from Lands, are also similar. The receipts from Other Properties have fallen, but in 1883 they include an extraordinary receipt in the case of one College, amounting to 1,227*l.*

If we now turn to the items of expenditure, we discover that the total charge incurred in respect of Loans was 30,526*l.* in 1883, and that it had increased to 36,375*l.* in 1892, and had then diminished to 33,380*l.* in 1893.[7] The decrease in Lessees' Annuities is probably due to the termination of the Beneficial Leases, the expenditure for Quit Rents is practically unchanged, while that for Miscellaneous Rent Charges has undergone a considerable increase. It is not possible to discover from the figures themselves the explanation of this increase; but the growth in the item of "Other Expenditure" is largely, if not wholly, explained by the abatements granted in 1892 and (especially) in 1893. Some Colleges supply the figures for these abatements under this heading of "Other Expenditure," while other Colleges deduct the abatements from the rents in order to obtain the figures for Receipts from Lands at Rack Rent. For this reason the figures given under this heading of receipts in Table VIII will be found not to correspond with those in Table II, where such abatements have been deducted from the receipts. The diminution in the Payments to Vicars and in the Donations to Churches and Schools is, no doubt, to be attributed, in part at least, to the hard necessity imposed by bad times and falling revenues of retrenching wherever possible.

But the main items of expenditure, setting aside the charges for Loans, are to be found in the sixth, seventh, eighth, and ninth headings of the Table. The total figure for these four headings was in 1883 51,930*l.*, in 1892 62,808*l.*, and in 1893 61,508*l.* In other words, if we exclude the Dividends, which cost little or nothing to collect, from the External Receipts, we find that of receipts amounting to 281,611*l.* in 1883, to 281,767*l.* in 1892, and to 269,136*l.* in 1893, in the first year more than a sixth, and in the last two years about a fifth and fourth, were absorbed in expenditure on rates, taxes, and insurance, agency and management, law charges and repairs and improvements. It is unfortunately impossible to distinguish in the published accounts between the sums which should be properly debited to land and house property respectively, and the figures for Agency do not include the stipends of College officials, such as the Estates Bursars, who are concerned with the management of the College property, while capital expenditure[8] upon Repairs and Improvements, as opposed to expenditure out of income, is excluded from the heading given in the accounts, and appears under another category in a separate schedule.

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[7] In the accounts of one College, under the heading of Investments, a sum of 7,459*l.* in 1883, 1,582*l.* in 1892, and a similar sum in 1893, are included as payments to Sinking Funds for Liquidation of Loans. These sums are not comprised in the table. In the accounts of another College similar sums, not included in the table, are given, viz., 283*l.* in 1883, 237*l.* in 1892, and 237*l.* also in 1893. If these sums be taken into account, the totals would be for 1883 38,268*l.*, 1892 38,194*l.*, and 1893 35,189*l.*

Yet, as they stand, the figures are significant. The expenditure on Repairs and Improvements alone amounts in 1883 to about an eleventh, and in 1892 and 1893 to an eighth of the receipts; and, if we add to the four items the charges for Estate Loans, which have been incurred for capital expenditure on improvements in the past, the totals will amount to 66,112*l.*, 80,889*l.*, and 79,869*l.* on receipts (excluding the Dividends) of 281,611*l.*, 281,767*l.*, and 269,136*l.* respectively. If we add again to these figures the charge for Fine Loans, which is unquestionably a burden upon the Collegiate revenues—and a burden[9] imposed in view of a prospective increase in income—we find that in 1883 more than a quarter, and in 1892 and 1893 more than a third, of the receipts were thus intercepted; and these results, it must be remembered, are reached without bringing into account those deductions for abatements which are included in the case of certain Colleges under the heading of "Other Expenditure." The figures, we repeat, are significant as illustrating the extent of the outgoings upon real property and the difference between gross and net receipts; and it will be noticed that they do not exhibit any diminution proportioned to a fall in income extending over many years, nor do they decrease in relation to the disasters of a specially bad year like 1893. The burden grows heavier rather than lighter, and it is scarcely an exaggeration to say that bad years mean pressure on both sides—a diminished revenue and an increasing expenditure. So far at least as these figures go, the measure of relief afforded to land and houses, as respects their payments to Income Tax, in the Budget of 1894, appears to be justified, and, we may perhaps add, more than justified.

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[8] This amounted in 1883 to some eighteen thousand pounds, in 1892 to some twelve, and in 1893 to some fourteen thousand pounds. The expenditure would generally be defrayed by raising a loan.

[9] The total indebtedness of the Colleges was in 1883 some eight hundred and thirty-six thousand pounds, and in 1893 some eight hundred and twenty-two thousand pounds. The original indebtedness, as given in 1883, seems to have been about eight hundred and forty thousand pounds. The indebtedness is, of course, continually changing as fresh loans are incurred for new improvements, while old loans are discharged. The increased burden of expenditure in the later years may be partly ascribed to the termination of the Beneficial Leases, under which the tenant, and not the Colleges, executed the repairs (see note [6] above). The Fine Loans also have been contracted to compensate the existing beneficiaries for the immediate loss of the fines.

VII.—THE EFFECTS OF THE DEPRESSION.

We may now proceed to attempt to form some conception of the manner in which this fall in income has been met by the Colleges. We shall only be able to reach a tentative solution of the problem; for the figures of the published accounts, here as elsewhere, admit alone of broad conclusions. Although the headings are uniform, it is impossible to be sure that the items are in each case similarly composed. This difficulty might be aptly illustrated by the table, which we have just examined. As we have noticed, the figures for abatements are in the case of some Colleges placed under the last item of expenditure, whereas in the case of other Colleges they do not appear under this heading, but are included by way of a deduction in the first item of the receipts. One College, again, reckons under the heading of Quit Rents and Rent Charges in 1883 a sum of over 1,700*l.* for percentages paid by tenants on improvements; and it may with reason be supposed that, if other Colleges were receiving such percentages, they were included in the item of Receipts from Lands. The item, once more, of "Other Receipts" includes in the case of one College "manorial "dues," in that of another "roads and sewers construction rates," and in that of a third the "profit on the cultivation of vacant "farms," while the item of "Other Expenditure" similarly includes, as we have seen, in the case of some Colleges, abatements of rent, and in that of others "incidental payments by agents" and "special benefactions" of large amounts. The figures, therefore, can only be safely used if caution is exercised, and no attempt made to pass from broad deductions to detailed conclusions. But, for reasons that we have previously advanced, the inferences, which we have sought to establish, are, we believe, within and not outside the mark.

Yet greater caution is required in the next and concluding stage of our inquiry. Colleges are, as is generally known, educational institutions; and the Collegiate revenues are appropriated, after deducting the expenses incidental to the management of the property and to the maintenance of the buildings and establishment, to the emoluments of Heads, Fellows, Scholars, and Exhibitioners. We may therefore expect to discover some measure of the effects of the depression by comparing the amounts paid to the Heads, the Fellows, and the Scholars and Exhibitioners of the Colleges, as they appear in the published accounts. In the schedule of these accounts we find under Internal Expenditure that the headings numbered (10), (11), and (12), refer to the payments to the Head of the College, to the Fellows, and to the Scholars and Exhibitioners respectively, and to these headings we should properly add that numbered (17), and described as "The Exhibition "Fund." We may supplement this information by comparing the numbers of the Fellows and the Scholars and Exhibitioners at the different periods as stated in the University Calendar.

But, in examining the figures, there are several considerations of importance to be borne in mind. For the external receipts are not the only source from which the maintenance of the Heads, the Fellows, and the Scholars and Exhibitioners is derived. The Colleges are in possession of certain Trusts, and a heading[10] of Receipts from Trust Funds appears in the published accounts. It is not possible to determine from the accounts what proportion of these receipts is applied to the emoluments of the Heads, Fellows, and Scholars and Exhibitioners, and what proportion is devoted to other objects, such as the Chapel, the Library, the College Officers, the Tuition, or the Building Fund. But there is no doubt that some part of the emoluments is provided from this source, and therefore it may be that a deficiency in the revenue from External Receipts may be counterbalanced by an increase in the Receipts from Trust Funds.

It is also impossible to determine from the published accounts what part of the Internal Receipts is applicable, or has been applied, to meet such items of Internal Expenditure as the emoluments of the Heads, Fellows, and Scholars and Exhibitioners. The insuperable difficulties of arriving with any accuracy at these particulars prevent us from showing how the diminution in the External Receipts has affected the payments to the Chapel and Library, to the College Officers, and to the Building Fund. All that we can with safety affirm is that in all probability a large part of such expenditure is defrayed from the Internal Receipts, and that in all probability also the main source of the emoluments of the Heads, the Fellows, the Scholars, and Exhibitioners, is to be found in the External Receipts.

But we encounter a fresh difficulty when we turn to the payments for University Purposes, included under the heading lettered C in the accounts. These comprise payments to Professors, including Fellowships held by Professors, and such payments should manifestly be brought into account when we are measuring the effects of the depression. For a similar reason the contribution to the Common University Fund should be included, as the amount of this contribution is determined in the main by the net External

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[10] See schedule given below, Item C.

Receipts of the Colleges, although such receipts are calculated in a different way from that shown in the published accounts.

Such, then, are a type of the difficulties to be faced in this part of our inquiry, and we can only hope to arrive at the broadest conclusions. But the enumeration of these very difficulties tends to prove that our conclusions here, as in the earlier portion of the paper, will be within and not outside the mark, and that the figures will not reveal the full extent of the depression. For the external receipts include other species of revenue besides agricultural property, and the emoluments of the Heads, Fellows, and Scholars and Exhibitioners, are partly derived from other sources than these external receipts. The Colleges are, in fact, to some extent in the same position as great landlords, who are enabled to meet losses on their agricultural estates by the income derived from their urban property and from their investments in the funds and in industrial and commercial enterprises. But the loss is none the less important on that account. The following schedule and tables will illustrate this part of our inquiry.

Schedule of Internal Receipts and Expenditure, &c., in continuation of the schedule given above (p. 40).

General Account I. (*Revenue.*)

RECEIPTS.

B. Internal.	£	*s.*	*d.*
(1.) Admission Fees			
(2.) Degree Fees			
(3.) College Dues and Establishment Charges			
(4.) Tuition Fees			
(5.) Room Rents			
(6.) Profits in Buttery, Kitchen, &c.			
(7.) Other sources (describing them)			
C. From Trust Funds			
D. From Sale of Stocks..			

PAYMENTS.

B. Internal.[11]

(1.) Charges in respect of Building Loans............

(2.) Rates, Taxes, and Insurance on College Buildings and Premises ....

(3.) Maintenance and Repairs of College Buildings and Premises............................

(4.) Chapel Services and Choir Fund...................

(5.) Library ....

(6.) College Servants..

(7.) Table Allowances ....

(8.) College Entertainments....................................

(9.) Maintenance of Establishment in College ....

(10.) The Head of the College ....

(11.) Fellows ....

(12.) Scholars ....

(13.) College Officers ....

(14.) The Tuition Fund...

(15.) „ Pension „ ....

(16.) „ Building „ ....

(17.) „ Exhibition Fund ....

(18.) Other Internal Expenditure (describing it)

C. University Purposes ....

(1.) Common University Fund ....

(2.) Professors, including Fellowships held by Professors ....

(3.) University Purposes Fund ....

(4.) Other Expenditure on University objects (describing it)...

D. Investments ....

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[11] The items under this head should include payments out of Trust Funds as well as payments out of Corporate Funds. (Note by the Commission.)

IX.—*Receipts from Trusts and Special Funds, and Expenditure on University Purposes*, 1883 *and* 1893.

	Receipts from Trusts and Special Funds.		Contributions to University Purposes, 1883.					Contributions to University Purposes, 1893.				
	1883.	1893.	Professors.	Common University Fund.	University Purposes Fund.	Other Purposes.	Total.	Professors.	Common University Fund.	University Purposes Fund.	Other Purposes.	Total.
	£	£	£	£	£	£	£	£	£	£	£	£
University	1,476	2,109	—	—	—	—	—	—	147	—	—	147
Balliol	1,930	1,450	—	—	—	—	—	—	133	—	—	133
Merton	144	134	900	—	825	—	1,725	2,100	269	—	300	2,669
Exeter	822	1,308	—	—	—	—	—	—	115	—	—	115
Oriel	517	939	220	—	—	—	220	310	—	—	—	310
Queen's	4,136*	4,090*	270	—	—	—	270	262	192	—	—	454
New	958	1,024	737	—	62	—	799	892	225	307	—	1,424
Lincoln	1,639	1,720	—	—	—	—	—	—	—	—	—	—
All Souls	578	845	4,261	—	2,261†	—	6,522	3,346	—	—	150	3,496
Magdalen	513	490	2,000	—	—	—	2,000	3,306	1,237	—	77	4,620
Brasenose	6	5	200	—	—	—	200	738	161	—	—	899
Corpus	495	380	1,950	—	—	—	1,950	1,579	159	—	—	1,738
Christ Church	4,066	3,792	1,702	—	—	—	1,702	1,568	1,000	—	372	2,940
Trinity	945	801	—	—	—	—	—	—	108	—	—	108
St. John's	1,899	2,081	—	—	547	—	547	433	124	—	—	557
Jesus	1,608	2,467	400	207	—	—	607	400	260	—	—	660
Wadham	1,065	1,492	200	—	—	—	200	100	92	—	—	192
Pembroke	1,191	1,361	—	—	—	—	—	—	67	—	—	67
Worcester	88	—	—	—	—	—	—	—	45	—	—	45
Total	24,076	26,488	12,840	207	3,695	—	16,742	15,034	4,334	307	899	20,574

*** On the Expenditure side of the published accounts for 1883 is included an item of 1,769*l.* for Expenditure on Trusts, and a similar item of 990*l.* is entered in 1893, making the net receipts in the two years respectively 3,367*l.* and 3,190*l.* The inclusion of these deductions in the table would slightly diminish the increase shown in the totals.**

† This would appear from a statement in the accounts of 1884 to have been instituted for the adjustment of claims on the College Revenues under the Ordinance of 1857 and the Statutes of 1881. Nothing appears under this heading in the Payments of 1884, but a receipt is shown from the Fund. In 1887 and afterwards it is called Statutory Purposes Fund.

X.—*Payments to Head, Fellows, Scholars, and Exhibition Fund*, 1883 *and* 1893.

	1883.					1893.				
	Head.	Fellows.	Scholars and Exhibitioners.	Exhibition Fund.	Total.	Head.	Fellows.	Scholars and Exhibitioners.	Exhibition Fund.	Total.
	£	£	£	£	£	£	£	£	£	£
University	1,189	2,989	1,237	391	5,806	1,115	2,501	1,757	199	5,572
Balliol	653	2,004	1,604	1,928	6,189	548	1,883	1,625	1,482	5,538
Merton	1,500	5,425	1,470	356	8,751	1,500	4,350	1,577	536	7,963
Exeter	1,256	2,646	2,197	—	6,099	1,100	1,780	2,446	220	5,546
Oriel	1,005	2,446	1,128	346	4,925	1,001	1,571	1,305	181	4,058
Queen's	1,504	3,253	4,232	—	8,989	961	2,753	5,123	63	8,900
New	2,225	5,919	3,041	564	11,749	1,944	5,749	2,830	587	11,110
Lincoln	644	3,569	1,175	—	5,388	487	2,265	1,132	—	3,884
All Souls	1,500	8,108	130	—	9,738	1,500	5,603	362	—	7,465
Magdalen	2,594	8,851	2,896	—	14,341	1,800	7,309	2,905	511	12,525
Brasenose	1,500	2,811	895	—	5,206	1,500	2,773	876	80	5,234
Corpus	1,200	3,502	2,159	221	7,082	1,500	3,200	2,350	397	7,447
Christ Church	—*	5,000	5,263	797	11,060	—*	5,688	4,119	942	10,749
Trinity	1,053	2,035	1,198	732	5,018	1,200	2,525	1,505	781	6,011
St. John's	1,600	4,544	3,177	—	9,321	1,584	3,889	3,162	120	8,755
Jesus	699	2,921	2,158	1,684	7,462	930	2,796	2,007	1,843	7,576
Wadham	1,089	1,587	1,133	279	4,088	1,005	1,100	1,351	443	3,899
Pembroke	800	1,972	1,435	—	4,207	630	1,575	2,061	—	4,266
Worcester........	800	1,398	910	40	3,148	600	400	1,200	300	2,500
Total	22,811	70,980	37,438	7,338	138,567	20,905	59,715	39,693	8,685	128,998

* Not shown in the published accounts; stated in Whitaker's Almanack to be 2,250*l.*

XI.—*Number and Emoluments of Fellows, Scholars and Exhibitioners,* 1883 *and* 1893.

	Fellows.				Scholars and Exhibitioners.			
	Number.		Payments.		Number.		Payments.	
	1883.	1893.	1883.	1893.	1883.	1893.	1883.	1893.
			£	£			£	£
University	11	9	2,989	2,501	26	29	1,628	1,956
Balliol................	13	13	2,004	1,883	63	57	3,532	3,107
Merton	21	19	6,325	6,450	22	29	1,826	2,113
Exeter................	11	9	2,646	1,780	34	35	2,197	2,666
Oriel	14	14	2,666	1,881	16	17	1,474	1,486
Queen's	14	13	3,523	3,015	42	63	4,232	5,186
New....................	23	25	6,656	6,641	36	33	3,605	3,417
Lincoln	9	10	3,569	2,265	22	25	1,175	1,132
All Souls............	28	34	12,369	8,949	4	4	130	362
Magdalen	24	28	10,851	10,615	30	40	2,896	3,416
Brasenose	10	13	3,011	3,516	25	43	895	956
Corpus	14	14	5,452	4,779	33	39	2,380	2,747
Christ Church	29	29	6,702	7,256	82	79	6,060	5,061
Trinity	9	10	2,035	2,525	19	32	1,930	2,286
St. John's	18	17	4,544	4,322	30	37	3,177	3,282
Jesus	11	10	3,321	3,196	22	25	3,842	3,850
Wadham............	11	8	1,787	1,200	17	17	1,412	1,794
Pembroke	9	7	1,972	1,575	23	27	1,435	2,061
Worcester	12	8	1,398	400	24	27	950	1,500
Total	291	290	83,820	74,749	570	658	44,776	48,378

The Fellows and Scholars include all those enumerated in the Calendar but some of the emoluments may be charged upon Trust Funds.

The payments to Fellows include the payments to Professors (including Professor Fellows), and the payments to Scholars and Exhibitioners include the payments to Exhibition Funds.

These tables do not furnish such demonstrative evidence of the effects of agricultural depression as we might have expected; and the explanation is probably to be sought in the considerations to which we have called attention. The External Receipts themselves do not consist wholly of the revenue obtained from landed property, and the emoluments of the Heads, Fellows, Scholars, and Exhibitioners are not derived solely from those External Receipts. If due account be taken of these considerations, and especially of the increase which we noted before in the receipts from house property,[12] the figures are more significant than they might seem.

From Table X we learn that the payments to the Heads of the Colleges have fallen from 22,811*l.* in 1883 to 20,905*l.* in 1893. This represents a diminution of 1,900*l.*, or a decrease of some 8 or

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[12] *I.e.*, more than 20,000*l.*

9 per cent. We should naturally not expect to find so great a decline in this item as in that which comprises the payments to the Fellows. The stipends of the Heads, like those of many of the Fellows, are fixed in amount; and, though hard necessity may require a *pro rata* diminution in such emoluments—and in certain instances they are intended to fluctuate, at any rate to some extent—yet it would seem more probable that the depression would be ultimately met by a diminution in numbers, than by a decrease in emoluments nominally fixed. This reduction in numbers is not possible of course in the case of the Heads as it is in that of the Fellows; and here it can be effected alone as vacancies occur.

Accordingly the total number of Fellows, as stated in the University Calendar for those Colleges which are included in the table, has only fallen from 291 in 1883 to 290 in 1893. In this number, however, are included Professor Fellows, who hold their Fellowships by virtue of their Professorships, and some cases of Fellows receiving no emoluments.[13] The figures, therefore, contained in the second and (especially) the seventh columns of Table X must be taken as referring to a smaller number of Fellows than those which we have just enumerated, and it may be noted that the change in this number is the result of a diminution in the case of 9 Colleges and an increase in that of 6.[14] The figures show a fall from 70,980*l.* in 1883 to 59,715*l.* in 1893. This fall represents a diminution of some 11,000*l.*, or a decline of some 15 or 16 per cent. If we add the payments to Professors (including Fellowships held by Professors) which are comprised under the head of Contributions to University Purposes, the fall becomes one of 10 per cent., and amounts to some 9,000*l.*

Passing next to the Scholars and the Exhibitioners, we find an increase in number from 570 in 1883 to 658 in 1893, and an increase in payments from 37,438*l.* in 1883 to 39,693*l.* in 1893. This increase represents an addition of 2,255*l.*, and, if we add to the figures those for the Exhibition Fund (which may not indeed be necessarily paid to Exhibitioners during the actual year, but may be also in part accumulations made with a view to such payments in the future), the increase becomes one of 3,602*l.*, and the figures stand at 44,776*l.* in 1883 and 48,378*l.* in 1893. Thus the total payments to Heads, Fellows, Scholars, and Exhibitioners, and to Exhibition Funds, amount to 138,567*l.* in 1883 and to 128,998*l.* in 1893. The diminution represents a fall of some 7 per cent., or a sum of 9,965*l.*

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[13] It is probable also that, as Fellowships on an older footing, with larger emoluments, have fallen vacant, their places have been taken by new Fellowships of smaller amounts, or by Fellowships attached to Professorships.

[14] The increase has amounted to seventeen, and the decrease to eighteen Fellows.

It may, however, be the case that the increased payments to the Scholars, and possibly also the diminished payments to the Heads and Fellows, have been partly made from Trusts and Special Funds. We find that the receipts from these have increased from 24,076*l.* in 1883 to 26,488*l.* in 1893. But against this increase of 2,412*l.* we have to set an increase in the Contributions to University Purposes. The amount paid to Professors (including Fellowships held by them) has grown from 12,840*l.* in 1883 to 15,034*l.* in 1893. The contributions to the Common University Fund have increased from 207*l.* to 4,334*l.*, although on the other hand the payments under the heading of University Purposes Fund have, according to the published figures,[15] diminished from 3,695*l.* in 1883 to 307*l.* in 1893. But the item of "Other Purposes" has grown from nil to 899*l.*, and the Total Contributions to University Purposes have increased from 16,742*l.* in 1883 to 20,574*l.* in 1893. This represents an increase of 3,832*l.*, and the addition of the contributions for University Purposes to the payments to the Head, Fellows, Scholars and Exhibitioners, and to the Exhibition Fund, increases the figures for 1883 to 155.309*l.*, and those for 1893 to 149,572*l.* The fall between the two years becomes thus one of 5,737*l.*, and, if we add to this the increase in the receipts from Trust Funds, the result is a sum of 8,149*l.*, representing a fall of 5 per cent.

We might apply to these figures the process pursued in former tables, and exclude from the computation the figures for those three Colleges, which have been previously distinguished as exhibiting an increase in revenue. By doing so we obtain the following results. These three Colleges show an increase in the payments to Scholars and Exhibitioners, and to Exhibition Funds, of 868*l.*, a growth in the Contributions to University Purposes of 4,263*l.*, or more than the total increase, a diminution in the payment to the Heads of 794*l.*, and a diminution in the payments to Fellows of 2,650*l.* Thus they contribute altogether an increase of 1,687*l.*, and their receipts from Trust Funds have diminished to the extent of 34*l.* The exclusion, therefore, of these three Colleges would make the fall between 1883 and 1893 about

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[15] In the case of one College (see note + on Table IX) a sum of 2,261*l.* appears in 1883 amongst the contributions to University purposes, and, as the heading under which this is placed disappears in 1884, and the total contributions appear as 4,937*l.*, compared with 6,522*l.* in 1883, the sum should perhaps be excluded from the total for 1883. This deduction would make the increase in 1893 some six thousand pounds, and the fall for all payments some ten thousand.

10,000*l.*, or about 8 per cent., as compared with a diminution, previously ascertained, of 8,000*l.*, or some 5 per cent.

The figures for some particular Colleges illustrate the importance of the results produced by excluding the more prosperous Colleges. Most of the Colleges exhibit an increase in the payments to Scholars and Exhibitioners and to Exhibition Funds, although one College shows a diminution of 1,000*l.*, or some 16 per cent. Most of the Colleges also show a decline in the payments to Fellows, but some of the examples of this decline in Table XI are remarkable. There are instances where the diminution has amounted to 25 per cent., there are others where as much as 33 per cent. has been reached, and in one case as large a percentage as 66 has been approached. With regard to the contributions to University Purposes, again, most of the Colleges exhibit an increase, and in some instances this increase has been considerable; but one College shows a diminution of little less than half. It is such instances as these which prove the reality of the depression; and they are apt to be concealed among the mass of figures.

In conclusion, it should be noted again, that, with the exception of the earlier tables, we have not brought into account the figures for the University as distinct from the Colleges, and that only those Colleges are included, which possess, and publish accounts of, External Receipts. The Colleges of Hertford and Keble are accordingly excluded, together with the still surviving Halls.

DISCUSSION *on* MR. PRICE'S PAPER.

MR. R. H. REW said that the figures brought forward that evening certainly tended to prove the fact, now generally recognised, that the decrease in the incomes of owners of land was of serious proportions. Mr. Price had pointed out the difficulty in estimating from the materials before him what had been the precise effect of the depression, but it might be gathered that he estimated the average decrease, in the case of the colleges of Oxford, at about 25 per cent. between 1883 and 1893. He would like to know what parts of the country were represented in the figures. The effects of the depression, as measured by the fall in rents, presented very varied results, according to the part of the country considered. If the land belonging to the Oxford colleges were unequally distributed throughout the country, the average might not be at all representative of the country at large. He would also have liked more information as to the outlay for repairs and improvements, as to which the author had unfortunately been unable to separate lands and houses. For this reason it was not possible to compare the figures under this head with those on purely agricultural estates. Some figures which he had the honour of laying before the Royal Commission on Agriculture, showed that on one large estate the annual outlay on general repairs and maintenance had ranged from 13·3 to 18·2 per cent. of the gross rental in the years 1890 to 1893, and on another large estate from 20·9 to 36·0 per cent. during the same period. He was glad to find that Mr. Price did not venture upon prophecy, for after the fall which had taken place between 1893 and 1894 it seemed hopeless to say that they had reached the bottom of the depression. It appeared indeed that it was impossible at present to obtain statistics which were not immediately subject to correction by reason of a further fall in prices and rents.

Right Hon. G. J. SHAW-LEFEVRE said that the conclusions were rather obscured by the inclusion of lands let on beneficial leases, which had come into the hands of the colleges during the period dealt with. After subtracting the three colleges which had been benefited by the falling in of these lands, it would seem that there had been during the ten years a diminution of about 20 per cent. On the whole he thought the experience of the colleges was rather favourable as compared with that of many other land-owners, and was probably due to the fact that their estates were widely spread over the whole country, some perhaps in Wales, where rents had fallen very little, or in the western counties, where the fall had been comparatively inconsiderable. The colleges had apparently also been fortunate in possessing a considerable amount of house property, many of the leases of which had fallen in. An unfavourable item was the increased cost of repairs. The figures dated only from 1883, whereas the depression had commenced at least four years earlier. He would ask Mr. Price whether he could not get the figures for the five preceding years, so that a real estimate might be formed of the fall in rents due to the depression which began in 1879. So far as the figures went, the average fall appeared very much the same as was shown by the valuations for income tax and for assessments for local rating (about 18 to 20 per cent.) over the whole country. Further information was very desirable on some points, such as whether the colleges had a large proportion of land unlet, whether there had been great changes in tenancy, whether many sales had been effected during the interval, and at what price. These facts would throw a great deal of light on the general condition of agriculture.

Mr. R. E. TURNBULL said that the estates on the whole appeared to have been economically managed, and that the fall in rents was much less than might have been expected, considering the great fall in prices. He did not look upon 1883 as in any sense a year of depression. The capital of English farmers was largely invested in live stock, and live stock in 1883 was selling at very satisfactory prices: 10*s.* per stone of 14 lbs. was a common price for high class beef, and 10*d.* to 1*s.* per lb. for well fed wether mutton, while good butter sold readily by contract for 1s. 6d. per lb. If these figures were compared with present prices it would be seen that the fall in rent would, to correspond, have to be very much greater than the percentage named by Mr. Price (25 per cent.). If we were to judge solely by the figures in the "Agricultural Returns for the United Kingdom," we might, in consequence of the reduced number of cattle and sheep in this country, look for a large increase in the price of stock next year, and it might in that case be reasonable to expect rents to rise. But it was a fact that the price of meat depended now on the quantity of stock, not in the kingdom only, but also in Greater Britain. He had that day been reading a circular by Messrs. Weddell and Co., which pointed out that there had in the last ten years been a large increase in the accommodation for bringing carcases from Australia and America, and that before the end of 1895 we should probably be able to store a million carcases at one time in this country. Therefore although the stock in this country was short, there would with increased facilities be very strong competition from abroad. He thought that English farmers were perfectly able to compete with those in any other country, if they only put their shoulders to the wheel, and were given a fair field.

Mr. F. B. **Garnett** said that the decrease in the value of lands as ascertained for the purposes of income tax assessment was larger for the year 1882-83 than at any other period during the last fifteen years, being 2,779,421*l*. The value of lands assessed had reached its maximum in 1879-80, being 51,671,448*l*.; and from that year to the next year of new assessment, viz., 1882-83, there was a fall of 3,389,772*l*. The decreases in the value of land during the last four years of the period referred to, had been much less than in the four years immediately preceding, the amounts of decrease having been in 1889 478,000*l*., in 1890 459,000*l*., in 1891 248,000*l*., and in 1892 325,000*l*., but these were not years of new assessment in the country, and the statistics of the new assessment for 1893-94 have not yet been published. The decrease on the whole country from 1879-80 to 1892-93 inclusive had been estimated at 13,402,856*l*., being something over 25 per cent., but the property of the Oxford Colleges did not appear to have suffered in the same proportion.

Mr. A. J. **Spencer** said that, as assistant commissioner, he had, in May, 1894, made inquiries on behalf of the Royal Commission on Agricultural Depression in Oxfordshire and Berkshire, and had found that land in those two counties had generally fallen in value considerably more than appeared from the figures given by Mr. Price. He had also been to several bursars of Oxford colleges, and obtained figures from them with regard to farms in the neighbourhood of Oxford, which showed that rentals had fallen much more in the case of some colleges than in others. Land belonging to colleges did not appear on the whole to have fallen in value quite so much as other land. He had expected that the opposite would prove to be the case, for it was said that colleges were rather "squeezable," and would be most unwilling to have land thrown on their hands, whereas many ordinary landlords were in a position to farm the land themselves rather than take a tenant at too reduced a rent. But the agent who managed most of the college lands had told him that it was not so, nor did he himself find it to be the case. In one instance he found a farmer paying 10*s.* per acre more for college land than he did for adjoining land of precisely the same description belonging to an ordinary landlord. Why that was so he could not say. The explanation might be that the colleges were more popular landlords, and had the reputation of treating their tenants with considerable liberality. Their estates were certainly well managed, and they had capital to fall back upon, which they could utilise in repairs and improvements. Buildings on college farms, so far as he saw, were very well kept up.

Mr. R. C. Richards wished to deprecate the use of the term "agricultural depression." He thought the term misleading, because, looking to the other trades of the country, he could not see that there had been greater depression in agriculture than, for instance, in cotton spinning. What had happened was a great fall in prices. From the experience he had gathered when making inquiries in connection with the Labour Commission, he was bound to say that where the same amount of capital, intelligence, and energy had been applied to land as to other industries, the result had not been so disastrous, and such farmers had little complaint to make. The fall in the value of good land had not been so great as that in the value of bad, a fact which bore out a statement made by Major Cragie some years ago, that farmers did not use enough capital, and that they had been impoverished. That pointed to the fact that farmers had been paying a rent which the land could no longer bear, and land was suffering more than it ought through the farmers having been impoverished at an earlier period. In other words, if the rents had been adjusted earlier on an economic basis, land would not be suffering to-day to the extent it actually did. Certain indications now however seemed to point to a change; the value of land, as shown by the sales at Tokenhouse Yard recently, seemed to be improving. Another favourable sign was that many large estate owners, who had sufficient capital, found that it paid them to farm their land themselves; it seemed therefore that they had reached a point at which the owners would stand out for higher rents, and that they were probably near the bottom of the depression.

Mr. A. E. Bateman said that he had the misfortune to be a small landowner in several counties, and that his experience was very much worse than that of the Oxford colleges. The latter had evidently suffered less than the small landowners; and one speaker had attributed this to the popularity of the colleges as landlords. If they were popular, it showed very good management. It was not that people liked paying money to colleges, for he had formerly had to inquire into the corn averages (when the corn returns were under the Board of Trade), and he remembered that in several places in Essex where the tithes were payable to Oxford colleges, the farmers had told him that they did not like paying to the colleges, because a gentleman came down and took away the money, whereas the parson spent it in the parish. When an individual possessed a large estate he employed a special agent who knew his business thoroughly, but a college possessing only a moderate quantity of land in several counties was dependent on local advice, and could not afford in any case to have land thrown on its hands. Under these circumstances he thought that it was very creditable that the Oxford colleges had only a loss of some 25 per cent.

The CHAIRMAN (Mr. F. HENDRIKS) said that he quite concurred in what was evidently the general consensus of opinion of the meeting, that the colleges of Oxford had not suffered so much from the effects of the remarkably great fall of the last ten years in the rental of agricultural land as the country as a whole. It was not quite clear, however, whether Mr. Price's statistics gave the exact particulars, distinguishing the purely agricultural from the other sources of revenue so as to show for that class of property what the total diminution had been. Mr. Price's Table II showed that the reduction in the whole net rental, from all classes of property, between 1884 and 1893, was 14⅓ per cent.; but further on he had stated that more than 20,000*l.* of income was derived from funded property and dividends. This meant, of course, income from consols and other Government securities, from which class of property there had been during the ten years a fall in income of 8⅓ per cent., owing to the diminution of interest upon consols from 3 per cent. to 2¾ per cent. And as this fall of 8⅓ per cent. was less than the average deduced from Mr. Price's statistics, the 14⅓ per cent. drop in the whole of the net income, which included dividends from the public funds, must be increased for other property wholly or partly agricultural. About 15 or 16 per cent. then would represent the maximum loss all round. And the colleges did not seem to him to be, even in the face of this heavy drop in ten years, in a much worse position than if the whole of their endowments had been in Government securities, since there had already been in the latter a fall of 8⅓ per cent., and another similar fall was approaching in the near future, when income from consols would be reduced to 2½ per cent., namely, in 1903. So that in eight years hence the drop in income from funded property would amount to 16⅔ per cent. between 1888 and 1903. It certainly seemed that the Oxford colleges could be congratulated on their good management of their property. Something might perhaps be ascribed to their being corporate bodies, who were probably not so exacting as individuals in requiring excessive rentals from old tenants, and to the rents in old days having thus been rather under the current market rates, so that the reductions afterwards made would not need to be so large as in the case of tenants holding under private proprietors. The Chairman concluded by moving a hearty vote of thanks to Mr. Price for his interesting and instructive paper.

Mr. L. L. PRICE, in reply, said that he had been agreeably surprised to find that the colleges were considered to be popular landlords, for when he had read his former paper dealing with a single college, an eminent agricultural authority who was present had expressed the opinion that a college was not the best landlord. It was also gratifying to find that the colleges had apparently not suffered so badly as other land owners. It was, however, his impression that Cambridge had suffered worse than Oxford, for the reason that the former probably possessed much more land in the eastern counties. He could not, without individual inquiries of each separate bursar, give particulars of the situation of the property; he believed that the great bulk lay in the counties in the immediate neighbourhood of Oxford, although the colleges undoubtedly held land over the whole kingdom. The reason why he had selected 1883 as his starting point was that in that year, as a consequence of Lord Selborne's Commission of 1877, the colleges for the first time published accounts, and their methods of keeping accounts were probably altered. To go back further would be to cause a great deal of trouble to each individual bursar. Judging from his own college, in which he could take the figures back to 1875, the favourable opinion expressed by speakers that evening would be considerably modified if the figures were carried back. Mr. Garnett had pointed out that 1882 and 1883 were the worst from the point of view of income tax returns, but the results of a year like 1879 would not appear in these returns until after such an interval. He had been asked to give an estimate of the total fall in the ten years. It was very difficult to eliminate the disturbing influence of the beneficial leases; he himself was inclined to put the fall at about 25 per cent., but this was only a rough impression. With regard to the outgoings on repairs, he was not sure that the outlay of individual landlords, given in the evidence before the Commission on Agricultural depression, did not include capital expenditure. His own figures did not. Merely considering the burden from year to year, the actual expenditure from income and the interest on the capital expenditure alone ought to be taken into consideration.

A cordial vote of thanks to Mr. Price brought the proceedings to a termination.

An Inquiry *into* Wheat Prices *and* Wheat Supply.

By R. F. Crawford, Esq.

[Read before the Royal Statistical Society, 19th February, 1895.
Viscount Grimston, Vice-President, in the Chair.]

The price of wheat has been so often discussed here and elsewhere, that it is with some diffidence that I venture to bring the subject before you once more. What is called the fall in price of wheat is frequently used as a kind of duplex standard by which to determine the advantages and disadvantages accruing to different sections of the community. It is employed by some to fathom the depths of agricultural adversity, it is used by others to measure the height of industrial prosperity. In the view of many writers and diagrammarians the cause of the fall is apparently closely connected with the fluctuations in value of a certain metal. Others attribute it mainly to the machinations of a body of transatlantic speculators. It is not my intention to deal with either of these theories. The first is an intricate question beyond the scope of my inquiry. The second is, according to its author, so readily accepted, that I feel some compunction in having to confess that I am not yet convinced of its cogency. But it is because I fear that the prominence given to these two theories may have obscured other elements in the situation, of equal if not of greater importance, that I would ask you to give some consideration to the following observations relating to the fluctuations in the price of wheat in the twenty-five years ending with 1893, and to some of the circumstances connected with the supply of that cereal.

Before proceeding to deal with the period selected it will be expedient to trace the course of wheat prices in the five years immediately preceding 1869.

The average price of British wheat in 1864, as officially recorded, was 5*s.* –¼*d.* per bushel. In the following year, there was a slight rise amounting to 2½*d.* on the bushel. For the next three years prices inclined much higher owing to the bad harvests in Europe and America. In 1866, the average price per bushel of wheat was 6*s.* 2¾*d.*; in 1867, it had risen by nearly 2*s.* to 8*s.* –½*d.*; while the average of 1868 was only 1*d.* less than that of the preceding year.

Prices in the three continental countries whose ports were at that time practically free to wheat, viz., Belgium, the Netherlands, and France, followed much the same course. Indeed, it will be found that the average price of wheat in Belgium in the seven years 1863-69 corresponded exactly with the average price of British wheat in the same period, viz., 6*s.* 3*d.* per bushel. The prices in the four countries are shown below:—

Price of Wheat per Bushel.

Year.	British.		Belgian.		Dutch.		French.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
1864	5	-¼	5	2	—		5	3½
'65	5	2¾	5	-½	—		5	-
'66	6	2¾	6	1½	—		5	6½
'67	8	-½	8	-½	8	5¾	7	5¾
'68	7	11½	7	8½	8	-¼	7	6

The feature of the five years we have just examined is a rise of 60 per cent. in price, due mainly to two bad harvests in succession in Europe and America. According to Mr. Sauerbeck's chart, the average prices of general commodities in England throughout the same period were on the decline.

The course of prices since 1869 in four European markets may be traced on Table I in the Appendix. I propose to briefly examine this table, taking the first ten years in two divisions of five years each, and then dealing with the remaining fifteen years in one division.

1869-73.

Before the close of 1868, the price of British wheat had again begun to fall, and the average for the first year of the quinquennium 1869-73 was 6*s.* -¼*d.* a bushel. A further slight decline was exhibited in the average for 1870, but the downward tendency had already received a check in the spring of that year. The upward current was sufficiently strong to raise the average price to 7*s.* 1*d.* per bushel in 1871, and for the next two years it ranged slightly above this level. A partial explanation of the rise is perhaps to be found in the Franco-German war, but a more reasonable explanation would be that the price of wheat rose in sympathy with the general inflation of prices of commodities which characterised the years 1871-73. Another circumstance which may have influenced the price during these three years, was a succession of under average crops in the United Kingdom and in most other European countries. The potency of this element in the situation was, however, considerably lessened by the increased shipments of grain to Europe from the United States.

In the three continental grain markets referred to above, prices followed much the same course as in Great Britain, though the very poor harvests in Belgium and the Netherlands in 1871 and 1873 operated to give a slightly higher range to prices in those countries.

There are three features in this quinquennial period worthy of attention. One is the change which took place in 1873 in the relative proportion of home grown and foreign wheat in the British market, the imported grain representing for the first time 50 per cent. of the available supply.

The second feature is the final abolition in the same year by Belgium of the insignificant duty on wheat, which had been suspended since 1871.

The third is the demonetisation of silver in 1872-73.

1874-78.

The average price of British wheat in 1874 was only 4½*d.* cheaper per bushel than the average of the previous year. In 1875 it fell to 5*s.* 7¾*d.* per bushel. A slight rise occurred in 1876 and continued during the next twelve months, for which the average was 7*s.* 1*d.* per bushel. From this point the price declined with little or no interruption.

It will be seen from the table that the Belgian, Dutch, and French prices followed mainly in the direction of the fluctuations in the British market, though prices at the Hague maintained a somewhat higher level throughout. Taking the four markets in the order in which they are given, the mean prices for the five years work out to 6*s.* 3*d.*, 6*s.* 5½*d.*, 6*s.* 7¼*d.*, and 6*s.* 2½*d.*, respectively.

The British crops of 1875-6-7 were all indifferent. The harvest of 1876 was about 15 per cent. below the average in the United Kingdom, and the outturn of wheat on the continent was also deficient in this year.

In 1877, the Dutch Government abolished the duty of ½*d.* a bushel on imports of wheat into the Netherlands.

The last two years of this period were disturbed by the Russo-Turkish war, and this should be borne in mind in considering the prices of 1877-78.

1879-93.

In the three years 1879-81, the price of wheat in Great Britain rose from 5*s.* 5¾*d.* to 5*s.* 8*d.* per bushel. The wheat crop of 1879 was a poor one on the continent, while in the United Kingdom the harvest was the worst experienced in the century. The deficiency in Europe was, however, counterbalanced by an abundant harvest in the United States, where the yield per acre was nearly two bushels over the average. In each of the four years 1877 to 1880, the American harvests were exceptionally good, and the shipments of grain from the United States to Europe during these years were not equalled by the exports of any other period of four consecutive years prior to 1877 or since 1880. Consequently the failure of the crops in western Europe had no remarkable effect upon the price of wheat. Notwithstanding the fact that the British wheat crop of 1879 was nearly 50 per cent. below the average, the price in the following year rose to the extent of only ¾*d.* There was a further rise of 1½*d.* to 5*s.* 8*d.* in 1881. Taking the three years 1879-81, the harvests of the United Kingdom were all very deficient, yielding the smallest outturn of any triennial period since 1852, and yet the extreme rise in the annual average price was one of only 2¼*d.* per bushel.

In 1867-68, two under-average crops in Great Britain happened in conjunction with low yields in the United States and we had a rise in price in Great Britain of nearly 33 per cent. Eleven years later we had three bad harvests in succession, probably the worst recorded in the century, counterbalanced by abundant crops in the United States, and the price of British wheat remained practically unaffected. The facts are worthy of notice.

Omitting 1891, the year of the Russian famine, it will be observed from the table, that the course of wheat prices from 1882 onwards has been generally on the decline in the United Kingdom and other European countries whose ports are free for grain. The annual average price of British wheat fell from 5*s.* 7½*d.* per bushel in 1882 to 3*s.* 3½*d.* in 1893. Wheat in Belgium fell from 6*s.* to 3*s.* 4½*d.*, in the Netherlands it fell from 6*s.* 3½*d.* to 3*s.* 5½*d.* per bushel.

In 1891, there was a rise in the price of wheat in consequence of the failure of the rye crop in Russia and the prohibition of the exportation of wheat from that country. But the improvement was of short duration. The crop of that year in the United States was the largest ever recorded, and exports of American grain to Europe in 1891-92 exceeded those of any previous fiscal year.

Thus, in the period covered by this inquiry, allowing for the exceptional years 1871-74 and 1877, the price of wheat fell 45 per cent. in Great Britain; in Belgium it fell 44 per cent., and in Holland the fall was 46 per cent. It should be noted, however, that the greater part of the decline took place after 1882.

The annual fluctuations in the twenty-five years may be shown as follows, taking the average price of 1869 as representing 100.

Average Annual Prices of Wheat per Bushel of 60 lbs., compared with the Prices of 1869 *when represented by 100.*

Years.	Great Britain.	Belgium.	Netherlands.	France.
1869	100	100	100	100
1870	85	107	100	99
'71	118	122	118	123
'72	118	120	118	113
'73	121	127	125	124
'74	116	120	119	118
'75	94	94	92	89
'76	96	101	97	99
'77	118	118	107	111
'78	96	104	100	111
'79	91	100	91	105
1880	92	103	102	111
'81	94	103	102	107
'82	93	100	98	103
'83	86	89	86	92
'84	74	79	81	86
'85	68	72	67	80
'86	64	68	67	85
'87	67	69	—	87
'88	66	70	64	92
'89	62	66	65	89
1890	66	71	69	93
'91	77	83	79	101
'92	63	70	72	88
'93	55	56	54	79

Units corrected.

The check to the fall of price in France in 1886 was due to an increase of the duty on wheat in 1885 from 1¼*d.* to 7¾*d.* per bushel. There was a further addition of 5¼*d.* to the duty in 1887, which was again increased by 5¼*d.* in 1894, so that every bushel of foreign wheat entering French ports now pays a duty of roughly 1*s.* 6*d.*

The effect of the fall in price on the cultivation of wheat in the United Kingdom has manifested itself in an almost uninterrupted decline of about 50 per cent. in the acreage devoted to this cereal, while the home production has fallen from 3¼ bushels per head in 1869-71, to 1¾ bushels per head in 1891-93. (See Table II, Appendix.)

WHEAT SUPPLY.

The main features of the supply of wheat in the United Kingdom over the entire period embraced within my inquiry and for some earlier years, are shown below:—

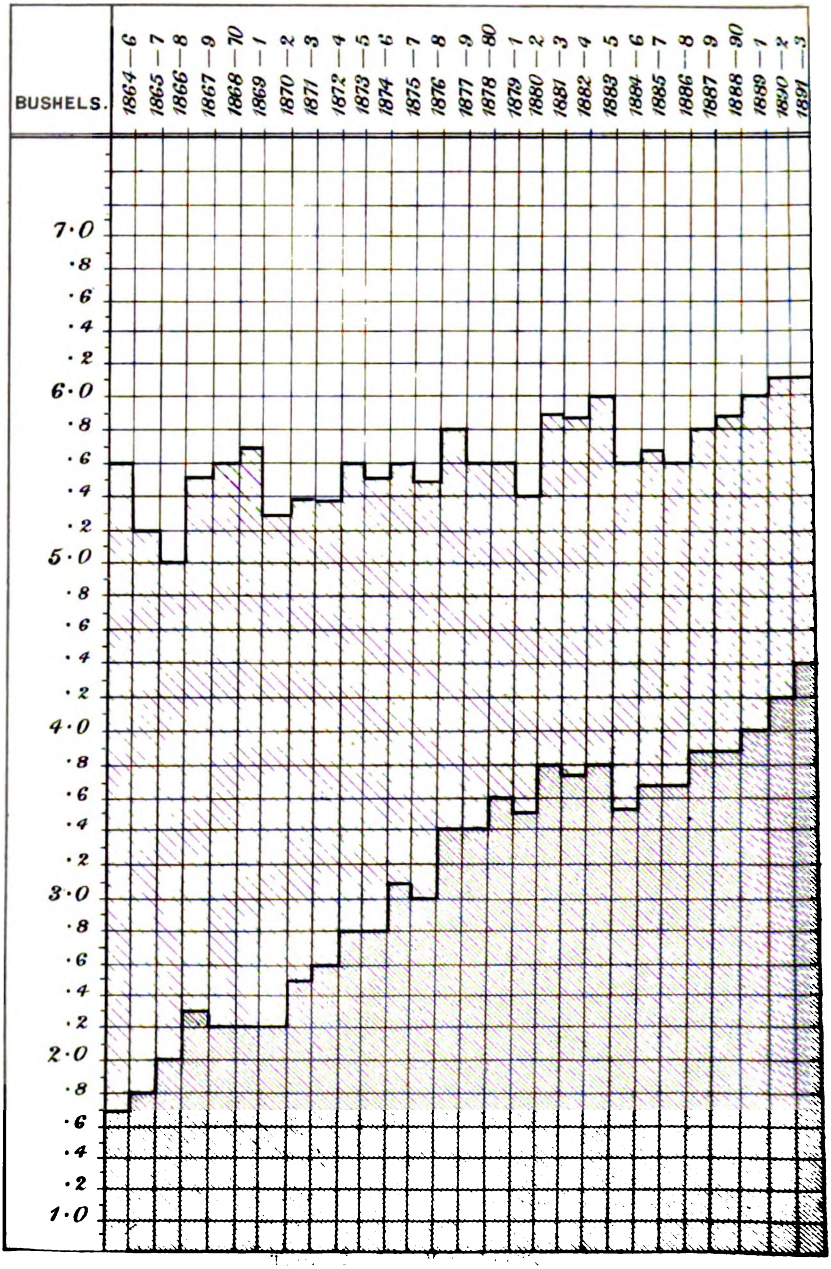
Period.	Acreage.	Average Population.	Average Home Supply.	Average Imports less Exports.	Average Total Supply.	Average Supply per Head of Population (deducting 2 Bushels per Acre for Seed).	Proportion per Cent. of Net Imports to Total Supply.
	Acres.		Bshls.	Bshls.	Bshls.	Bshls.	
1864–66	3,664,511	29,911,773	122,583,088	53,393,880	175,976,968	5·64	30·34
'65–67	3,640,655	30,147,874	105,228,672	59,426,232	164,654,904	5·22	36·09
'66–68	3,751,098	30,415,621	95,857,888	65,724,856	161,582,744	5·06	40·67
'67–69	3,857,977	30,692,462	102,479,552	74,651,192	177,130,744	5·52	42·14
'68–70	3,902,223	30,974,930	109,953,112	71,484,904	181,438,016	5·61	39·39
'69–71	3,862,202	31,263,502	113,331,777	72,870,464	186,202,241	5·71	41·51
1870–72	3,814,749	31,562,137	102,227,960	74,434,264	176,662,224	5·35	42·13
71-73	3,780,281	31,869,142	95,391,376	83,923,352	179,314,728	5·39	46·80
'72–74	3,780,186	32,184,416	90,845,848	89,739,832	180,585,680	5·38	49·69
'73–75	3,671,704	32,505,941	94,018,952	97,530,968	191,549,920	5·66	50·91
'74–76	3,489,732	32,846,756	90,922,528	98,302,928	189,225,456	5·54	51·95
'75–77	3,319,831	33,204,897	87,262,744	107,124,504	194,387,248	5·65	55·10
'76–78	3,275,702	33,573,236	84,261,864	106,288,136	190,550,000	5·48	55·77
'77–79	3,253,064	33,940,757	85,532,640	119,387,936	204,920,576	5·84	58·26
'78–80	3,168,008	34,289,753	77,299,760	122,028,272	199,328,032	5·63	61·21
'79-81	3,029,794	34,619,977	71,096,072	129,421,056	200,517,128	5·62	64·54
1880–82	3,065,617	34,921,275	68,141,552	128,189,312	196,330,864	5·44	65·29
'81–83	2,948,080	35,196,769	75,727,128	138,805,616	214,532,744	5·93	64·70
'82–84	2,875,923	35,459,879	77,153,688	135,539,848	212,693,536	5·88	63·72
'83–85	2,672,320	35,729,395	79,460,888	142,103,856	221,564,744	6·05	64·13
'84–86	2,553,858	36,017,202	77,789,024	130,037,168	207,826,192	5·63	62·57
'85–87	2,432,834	36,308,688	74,367,760	139,032,280	213,400,040	5·74	65·15
'86–88	2,471,212	36,597,091	72,498,128	138,562,048	211,060,176	5·63	65·65
'87–89	2,533,431	36,885,383	72,748,176	147,092,584	219,840,760	5·82	66·90
'88-90	2,565,456	37,180,430	75,508,216	148,526,752	224,034,968	5·88	66·29
'89–91	2,473,463	37,485,519	75,484,600	154,058,984	229,543,584	5·99	67·11
1890–92	2,391,482	37,796,060	73,861,352	164,134,904	237,996,256	6·17	68·96
'91–93	2,215,355	38,115,017	67,717,160	171,536,408	239,253,568	6·16	71·69

In this statement the available supply is shown for periods of three years. The quantities available for consumption per head from the home supply were obtained by assuming that in a given calendar year the proportion of home grown grain entering into the total supply would be two-thirds of the crop of the previous year, and one-third of the crop harvested in the year in question. It would have been easier and perhaps more orthodox to have worked the figures for cereal years, but for the purposes of this paper the method adopted is more suitable, and little if anything is lost in respect of accuracy.

A glance at the following diagram will show that so far as the volume of supply is concerned, omitting 1870-73, and allowing for the exceptional periods already referred to, there is no remarkable increase such as would induce one to say that the fall in price was due to over supply. There was, however, an augmenta-

DIAGRAM SHOWING THE AVERAGE SUPPLY OF WHEAT IN THE UNITED KINGDOM, PER HEAD OF THE POPULATION.

(*The dark Section represents the proportion of Foreign Wheat*).



tion in the available supply in 1881-85, and there would appear to have been some accumulation in the years 1889-93.

But with respect to the relations of the volume of supply to prices, and apart from any changes in money, it is of course quite possible for the quantity available for consumption to remain uniform simultaneously with a fall in price. This may be brought about by improvements in production and in transport, and in connection with the latter, by the introduction of fresh areas of cultivation which can be profitably worked at an outlay inferior to that expended on the older centres of production. The displacement of the home grown wheat by foreign grain, as shown by the shaded portion of the above diagram, would appear to indicate clearly that these influences have made themselves felt in the United Kingdom.

The following table shows the relative positions held by the United States, Russia, and India, in the wheat market of this country, representing the total supply in each period as 100. The United States has been the dominant factor in the foreign supply throughout the twenty-five years. It is, however, the position of America in 1879-83, and subsequently, to which I would particularly direct attention, as it is from this period that the fall in price has been practically continuous. For though it is true that the decline had set in prior to 1881, there were many fluctuations between that year and 1869. The drop was most apparent in the eleven years 1882 to 1893.

Periods.	Total Supply.	Home Supply.	United States of America.	Russia.	Indies.	Other Foreign Countries.
1869–73....	100	54·97	16·37	13·29	0·24	15·13
'74–78....	100	46·89	25·42	8·60	2·60	16·49
'79–83....	100	34·16	40·20	6·99	5·69	12·96
'84–88....	100	35·38	34·50	8·57	8·42	13·13
'89–93....	100	29·41	36·90	11·00	8·13	14·56

So far, then, as the supply is concerned, it has been shown that one-half of the bread consumed in this country in the fifteen years ending with 1893 was supplied by the United States, Russia, and India, the American supply representing a third of every loaf. In view of these facts, I propose now to direct the course of inquiry to those countries, dealing in the first instance with the United States.

United States.

The progress of wheat growing in the United States may be traced year by year on Table III, which has been compiled from the "Reports of the United States Department of Agriculture" and from the "Statistical Abstract of the United States." The following statement shows the position of the industry in triennial periods:—

	Average Acreage.	Average Production.	Average Export.
	000's of acres.	000's of bushels.	000's of bushels.
1869–71	19,389	235,017	46,208
'72–74	22,666	271,391	69,183
'75–77	26,762	305,966	72,324
'78–80	34,214	441,935	166,243
'81–83	37,077	423,098	123,868
'84–86	36,824	429,097	123,205
'87–89	37,701	440,591	102,846
'90–92	38,186	493,724	145,752
'93....................	34,629	384,248	95,743

On examination of the column of acreage in the more detailed table, it will be seen that from 1869 to 1877 there was on the whole a gradual and steady rise of the area under wheat from, roughly, 19,000,000 to 26,000,000 acres. In 1878, there was a sudden increase of 6,000,000 acres, and this was followed two years later by another addition of 5,000,000 acres, so that in these three years 11,000,000 acres of land were added to the wheat area. A further increase of 2,000,000 acres took place between 1882 and 1884, which was followed by a sudden drop of 5,000,000 acres in the next year. From 1885 to 1889, there was again an expansion of about 4,000,000 acres. Half of this additional surface was lost in 1890, but in the next year there was a gain of double the loss, the total area being nearly 40,000,000 acres, the largest surface ever sown with wheat in the United States. Within the next two years, the area declined by 5½ million acres.

I have purposely followed these changes in order to direct attention to the rapidity with which the wheat area is capable of being expanded and contracted. On five occasions during the period covered by our inquiry, the United States has, in the course of twelve months, expanded and contracted her acreage by from 4 to 5 million acres, not to speak of several minor pulsations to the extent of a mere million of acres.

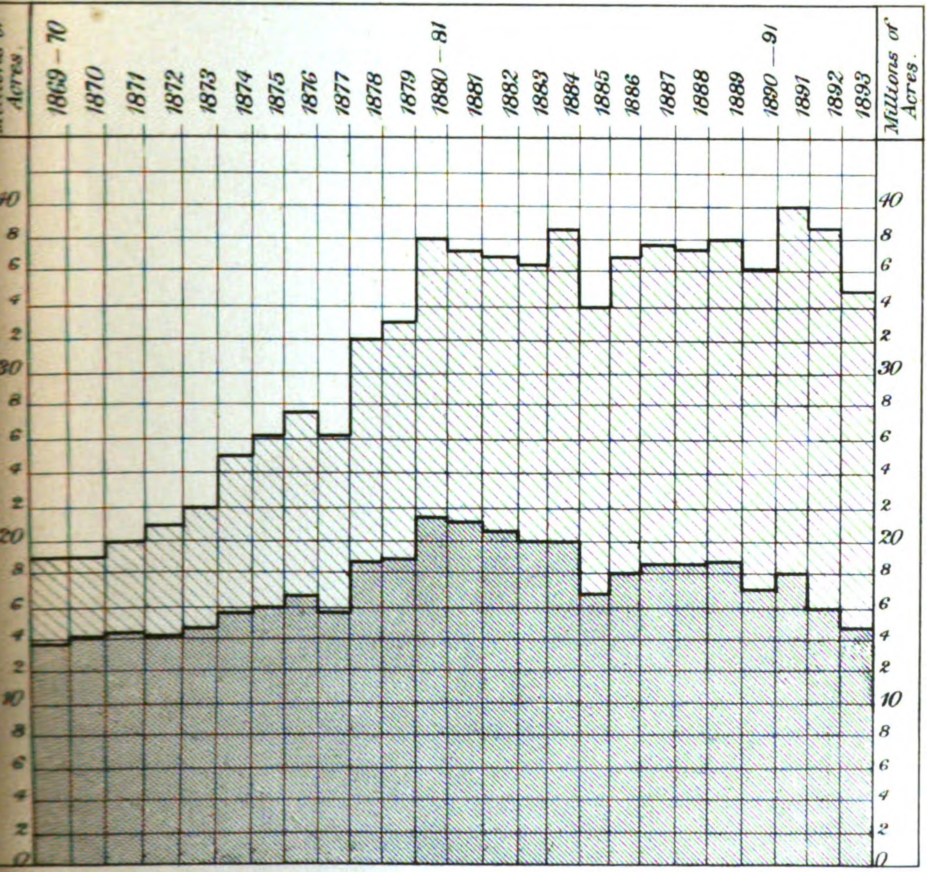
These changes may be followed on the diagram below. The darker section represents the area east of the Mississippi, while the lighter shaded portion shows the acreage west of that river.

It will be seen that the greatest development took place between 1877-80, and it is from this period that the competition of American wheat has made itself felt in the markets of western Europe.

The harvests of 1879-81 in the European wheat importing countries were perhaps the poorest recorded during the century. The United States crops of the same period were extraordinarily

ACREAGE OF WHEAT IN THE UNITED STATES.

(The dark Section represents acreage East of the Mississippi, the light Section shows the acreage West of that River)



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abundant; the volume of grain shipped to Europe in the three years 1878-9-1880-81 amounted to nearly 500 million bushels, or more than double the greatest quantity exported in any triennial period prior to 1878-79. It is since these years that wheat prices have been on the down grade in all the markets free to American grain. It is since these years that a contraction of the wheat acreage of the United Kingdom, the largest foreign consumer of American grain, has become more and more apparent.

The development in America since 1882 has, however, not been uniform. From the above diagram it will be seen that the centre of cultivation has been constantly shifting towards the west. In the States beyond the Mississippi there has been an expansion, and this has been accompanied by a contraction in the eastern States. Were it possible to enter here into a closer analysis of these changes, it might be shown that over a large tract of the region east of the Mississippi a process has been in operation similar to that which has taken place in our own country.

Omitting the older States of New England and the Atlantic littoral, the distribution of the wheat-growing area, at different periods, will be seen from the following table:—

Thousands of Acres.

	1869–73.	1874–78.	1879–83.	1884–88.	1889–92.
Wisconsin	1,553	1,688	1,637	1,310	930
Illinois	2,213	2,413	2,901	2,187	1,855
Michigan	1,136	1,302	1,834	1,673	1,571
Indiana	1,658	1,883	2,703	2,705	2,690
Ohio	1,429	1,798	2,618	2,559	2,613
Kentucky	651	699	1,091	1,108	977
Tennessee	954	1,416	1,275	1,224	1,059
	9,594	11,199	14,059	12,766	11,695
Minnesota	1,250	1,856	2,790	3,027	3,230
Iowa	1,912	2,945	2,820	2,620	1,262
Missouri	762	1,375	2,239	1,754	1,736
North Dakota South „	—	—	864	2,798	4,820
Nebraska	161	492	1,613	1,697	1,302
Kansas	193	1,061	1,797	1,259	2,823
	4,278	7,729	12,123	13,155	15,173
California	1,412	2,281	2,509	2,881	2,853
Washington	—	—	158	429	512
Oregon	125	298	692	886	733
	1,537	2,579	3,359	4,196	4,098

The States showing the greatest development within the last ten years are the two Dakotas, Minnesota, and Kansas. In the first three, there was a steady annual increase in acreage until 1892. Kansas seems to be the most elastic wheat field in the United States. Between 1877 and 1880, the area in this State jumped from one million to two million acres, between 1884 and 1885 it fell a million acres, in the two years 1890-92 it increased by two million acres, and in the subsequent twelve months it fell nearly a million and a half acres. A reference to the table of wheat prices will show that these fluctuations in area in Kansas have followed the course of prices in European markets. Whenever there has been a prospect of a rise in prices, the acreage has leaped to meet it. A striking example is seen in the expansion which took place in 1890-92, when prices were expected to rise in consequence of the Russian famine. What has been said of Kansas is true of the entire wheat area of the States, allowing for the exceptional circumstances of the Dakotas and Minnesota, where the wheat area has continued to run counter to the current of prices since 1882. The Dakotas offer a remarkable example of rapid development. In 1882, the wheat area of these States was 720,000 acres, ten years later it was five million acres, or considerably more than double the acreage under the same crop in the United Kingdom.

This great development of the western States after 1882, followed upon what has been called the railway mania of 1880-83.

The following table shows the number of miles of railway in operation in the States west of the Mississippi in the years 1880, 1886, and 1890, distinguishing the Dakotas, Kansas, Minnesota. and California:—

Railway Mileage West of Mississippi.

States West of Mississippi.	1880.	1886.	1890.
	Miles.	Miles.	Miles.
Dakotas	1,225	3,556	4,705
Kansas	3,400	5,943	8,895
Minnesota	3,151	4,863	5,582
California	2,195	3,263	4,315
Other	21,589	37,847	49,299
Total	31,560	55,472	72,796

Since 1869, the average annual yield per acre of wheat in the United States has fluctuated between 9·86 and 14·86 bushels, with an average of about 11 bushels. Taking the States separately, the range would be from 7 to 25 bushels per acre.

In the ten years 1884-93, the exports of wheat from the United States represented about 27 per cent. of the gross production. Of the grain exported to Europe, about 70 per cent. is, as a rule, shipped to British ports. The proportion received by this country in 1869-73 was 92 per cent., in 1879-83 it was 63 per cent., but the quantity exported to the United Kingdom in the latter period more than trebled the shipments to the same destination in 1869-73.

With this brief outline of the growth and distribution of the wheat area, we may proceed to discuss the economic conditions under which the grain is cultivated and marketed, dealing in the first place with the cost of production. An inquiry into the estimated cost of growing wheat was made in 1893 by the Department of Agriculture of the United States, and the results were published in the Statistician's report of March, 1894. Although estimates of the cost of cultivation should be received, as a rule, with caution, the figures obtained from this investigation are worthy of consideration, as they are stated to have been based on returns collected from 25,000 individual farmers and 4,000 experts.

The cost per acre in the different sections of the United States, as ascertained from the returns furnished by the farmers, varied from 35*s.* 8*d.* in South Dakota, to 5*l.* 9*s.* 9*d.* in the State of Connecticut. The averages for different sections were as follows:—

Sections.	Cost per Acre.													
	Rent of Land.		Manures.		Seed.		Labour.			Marketing.		Total.		
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*
New England	14	8	18	4½	9	0	1	16	11	5	3½	4	4	3
Middle States	16	8½	21	6	5	10	1	8	0½	3	8	3	15	9
Southern States	11	7½	8	8½	3	10½	0	18	1	3	3½	2	5	7
Western States*	10	11	7	8½	3	10	1	0	2	2	9	2	5	4½
Mountain region	16	2	11	3	3	11½	1	7	10	6	7½	3	5	10
Pacific States	13	9½	10	11	4	3½	1	3	9½	5	5½	2	18	3
Average for the United States	11	8½	9	0	4	0	1	0	10	3	2	2	8	8½

* Includes fourteen States, viz.: *West Virginia*, *Kentucky*, *Ohio*, *Michigan*, *Indiana*, *Illinois*, *Wisconsin*, *Minnesota*, *Iowa*, *Missouri*, *Kansas*, *Nebraska*, *South Dakota, and North Dakota*.

On the average yield per acre of the four years 1890-93, the cost of cultivation per imperial bushel for the entire United States, according to the above estimate, would be about 3*s.* 10*d.* In South Dakota, where the average yield in good seasons is about 13½ bushels per acre, the estimated cost of production works out to 2*s.* 8*d.* For California, the cost of cultivation on the average yield of the four years 1890-93 represents an outlay of 3*s.* 10*d.* per bushel. In the section shown as Western States in the above statement, the cost of producing a bushel of wheat on the average yield of 1890-93 would be 3*s* 3*d.* Two-thirds of the wheat crop of the United States is grown in this section, and I am disposed to regard the cost of production in this region as being a significant factor in determining the price both in the American markets and in Great Britain.

As regards the price of wheat in the United States, a table is given below showing the gold price of standard quality grain at Chicago and New York in the twenty-five years 1869-93:—

Year.	Chicago. No. 2 Spring Wheat.		New York. "Milwaukee Club," 1862-73. "No. 2 Chicago and Milwaukee Spring," 1874-89. "No. 2 Red Winter," 1890-91.	
	Per bushel.		Per bushel.	
	s.	*d.*	*s.*	*d.*
1869	3	4½	4	7¼
1870	3	6½	4	6¼
'71	4	4¼	5	5½
'72	4	5¾	5	9½
'73	4	1¾	5	6
'74	3	11	4	10½
'75	3	7	4	4
'76	4	1	4	4½
'77	4	10¾	5	9¼
'78	3	10	4	8
'79	4	–	4	8½
1880	4	3	5	–
'81	4	7½	5	2¼
'82	4	8¼	5	1¾
'83	4	1	4	4½
'84	3	4	3	9¾
'85	3	4½	3	9
'86	3	1	3	6¼
'87	3	–½	3	6¼
'88	3	7½	3	11
'89	3	5¼	3	10
1890	3	7	3	11½
'91	3	10½	4	4¾
'92	3	2	—	
93	2	9	—	

Taking the prices at Chicago, and bearing in mind the estimated cost of production in the group of Western States tributary to that market, it is difficult to see how it could have paid farmers in that region to cultivate wheat for sale at prices so low as those of 1884-87 and 1892. It may be noted, however, that immediately after the drop in 1883-84 and in 1892, there was a shrinkage in the wheat acreage of several States west of the Mississippi, and in others the process of extension ceased. The contraction in 1885 and 1892 may be plainly seen in the above diagram.

It may be of interest to compare the prices in the two cities with the freight rates between the same points:—

Year.	Chicago.	New York.	Difference per Bushel.	Freights—Chicago to New York.		
	Price per Bushel.	Price per Bushel.		Average Rates per Bushel.		
				By Lake and Canal.	By Lake and Rail.	By all Rail.
	s. *d.*	*s.* *d.*	*s.* *d.*	*d.*	*s.* *d.*	*s.* *d.*
1869–71....	3 9	4 10	1 1	10½	1 –	1 4½
'72–74....	4 2	5 4½	1 2	9½	1 –	1 3½
'75–77....	4 2	4 10	– 8	5¼	– . 7	– 10
'78–80....	4 –	4 9	– 9	5½	– 6¾	– 9
'81–83....	4 5½	4 11	– 5½	4	– 5½	– 7½
'84–86....	3 3	3 7	– 4	3½	– 5	– 7¼
'87–89....	3 4	3 9	– 5	3½	– 5¼	– 7½
'90–92....	3 8¾	4 2	– 5¼	2¾	– 4	– 7½

Here again attention may be directed to the change in prices which took place after 1883 in both markets; a change coincident with the predominance of the western centres in the field of production. Up to 1881, the reduction was general in all three channels of communication shown in the table, but after that year "all "rail" freights, and rates "by lake and rail" remained practically unchanged until 1892. The bulk of the grain consigned to New York is conveyed by these routes.

Transatlantic freights were generally on the decline during the period 1869-83, as will be seen from the following statement of the freights from New York to the United Kingdom. A column has been added showing the rates from the Pacific coast. The former are the average annual rates as published by the United States Department of Agriculture and by the Chicago Board of Trade. The rates from San Francisco are averages for the month of January in each year, extracted from a return published by the Board of Trade.

Ocean Freight Rates from New York and San Francisco, per Bushel.

Year.	New York to Liverpool.	San Francisco to United Kingdom or Havre.*	Year.	New York to Liverpool.	San Francisco to United Kingdom or Havre *
	d.	*d.*		*d.*	*d.*
1869	6·40	—	1881 ...	4·08	22·50
			'82 ...	3·87	22·82
1870	5·78	—	'83	4·54	12 86
'71	8·16	—	'84 ...	3·40	—
'72	7·64	—	'85	3·60	12·86
'73	10·56	22·77	'86	3·46	11·65
'74	9·08	22·09	'87	2·71	10·65
'75	8·07	—	'88 ...	2·67	8·72
'76	8·02	—	'89 ...	4·06	12·86
'77	6·93	—			
'78	7·61	11·25	1890	2·96	12·46
'79	6·20	11·65	'91 ...	3·42	—
			'92 ...	2·75	7·23
1880	5·88	22·09	'93	2·25	—

* *Rates in January of the years given.*

It would seem evident therefore that whatever else may have affected the prices of American grain in foreign markets in the first thirteen years to which our inquiry relates, there was a process of approximation going on between the prices of the eastern and the western markets due to a diminution in the costs of transport. Other causes were no doubt at work, but the influences I have referred to were very apparent. In the later period this process of approximation was much less operative. For one explanation of the fall since 1882 I should point rather to the exploitation of fresh areas of cultivation beyond the Mississippi.

Now let us turn to Russia.

Russia.

Hitherto little has been known as to the circumstances under which wheat is produced in the Russian Empire. I would therefore venture to put before you a few notes on the subject obtained principally from a recent contribution by Dr. Oscar Mertens to the "Allgemeines Archiv der Statistik," and from a report issued in 1893 by the Russian Ministry of Domains.

From an estimate published by the Ministry of Domains in 1893, it would appear that the extent of arable land (including fallow) in Russia proper is about 287,976,000 acres, or 26 per cent. of the entire superficial area, viz., 1,098,500,000 acres. The proportions of the total area owned by the different classes of the population are given in the same publication as under:—

Class of Owners.	Acres.
Peasants	354,666,000
State	406,062,000
Crown	19,891,000
Private owners	252,101,000
Others	23,166,000

Of the area entered to private owners, 78·8 per cent. is owned by nobles, and 5½ per cent. by peasants, so that the total acreage in the hands of peasant proprietors is about 370 million acres.

The wheat crop of Russia is mainly grown in the south and south-east portions of the empire, particularly in those twenty-six governments embraced within a zone of fertile black soil, rich in humus, known as the Chernoziom region.

There has been some confusion in the latest estimates as to the extent of surface devoted to the cultivation of wheat, but according to the official "Messenger of Finance" the area under this cereal in 1893 in the fifty governments of European Russia was 32,583,000 acres.

The system of wheat cultivation in many of the governments is of a primitive nature. Cultivators in the Chernoziom region depend almost entirely on the natural fertility of the black soil, which, under favourable climatic conditions, is said to yield abundant crops without the application of manure, and with very indifferent tillage. This applies chiefly to the cultivation of the spring varieties, which represent about 80 per cent. of the wheat grown in the empire. In the case of winter wheat, manuring is practised to a slight extent even on the peasants' holdings. On the estates of nobles, the application of manure is rather more general.

Of the total area under spring wheat, which forms the bulk of the wheat exported, 75 per cent. is owned by peasant proprietors.

Statistics as to the production of wheat in the fifty governments of European Russia are available year by year only from 1883 onwards. These are given in Table IV. Poland has been excluded, as this section of the empire was not included in the official returns until 1888.

The total export of wheat from Russia in periods of five years since 1869 has been as follows:—

Years.	Bushels.
1869-73	266,087,000
'74-78	321,220,000
'79-83	337,665,000
'84-88	430,712,000
'89-93	591,497,000

Thus, notwithstanding the fall in prices, Russia has exported wheat in increasing quantities.

One important element influencing the cost of production in the empire is undoubtedly the distribution of ownership of land to which attention has been already directed.

According to a statement by Dr. Mertens, which has recently received corroboration in a speech by the Minister of Finance, the peasant utilises his diminutive holding in the first instance for the production of food for his family; when this object has been secured, he devotes his energies to the cultivation of wheat. The labour is performed by himself and his family, and does not enter into his estimate of the cost of production. His pecuniary income is frequently derived from the pursuit of some rural industry, or from the labour he does for others. These facts should be borne in mind in considering the cost of production.

An investigation was made in 1888 by the Russian Ministry of Domains into the cost of growing all classes of cereals. From the published results of this investigation the following table has been compiled, showing the cost of cultivating an acre of wheat in the different governments of the black soil region. The original statements are given in dessiatines and paper roubles. In the process of conversion, the dessiatine has been taken at 2·7 acres, and the rouble at 2*s.* throughout this inquiry. It is necessary to observe here that the estimates were collected from estate owners, and consequently represent the cost of cultivation where outside labour is employed. Dr. Mertens thinks that the expenditure would be less on the peasant's holding, where the labour is performed by the occupier and his family.

The average cost of cultivating an acre of wheat in the black soil governments of Russia was found to be as follows:—

Governments.	Winter.	Spring.
	s. *d.*	*s.* *d.*
New Russia	23 10	21 9
South-western Russia	33 8	20 5
Little Russia	32 2	22 –
Central	27 7	19 2
„ Volga	—	16 2
Lower „	—	19 1

The items included in these estimates comprise the cost of ploughing, sowing, and care during growth, the value of the seed, the expenses of harvesting and transport from the field to the stack, cost of repairs, and insurance of buildings and implements, expenses of management, and land tax. In the original estimates no charge is entered for manure in the case of spring wheat, but in the case of winter wheat the estimates include a sum varying from 1*s.* to 4*s.* for the cartage of manure, but the value of the manure itself is not given. An explanation of the omission of manure in the case of spring wheat, may be found in the circumstance already alluded to, that manuring is not practised to any great extent in the cultivation of this variety.

No allowance is made in the estimates for interest on capital, so that something must be added for this item. Where land is rented, and it is the custom in many localities for the cultivators to rent several acres of land in addition to the area they own, the average cost of production would be increased by about 6*s.* per acre.

According to a statement issued by the Ministry of Domains, the average annual wages, including board, of labourers engaged by the year in the black soil provinces range from 70 to 163 roubles, or from 7*l.* to 16*l.* The highest wages are paid in the South Steppe region, where the average annual wage for a man is about 13*l.* 10*s.*, including food; women's wages average about 7*l.* per annum. As regards day labourers, the Department of Agriculture and Rural Economy has published a statement of the average wages of day labour in the different governments for 1882-91. The average daily wage during spring sowing in the Southern Steppe region, where the highest wages prevail, was about 11¼*d.* At harvest, the rate of wages was about 2*s.* 3*d.* per diem. In the south-western Chernoziom Government, the daily wages varied from 8*d.* at sowing time, to 1*s.* during the harvest.

Taking the average yield per acre of wheat for a period of ten years, viz., 10 bushels, the cost of production, according to the official estimate, ranges from 1*s.* 7½*d.* to 3*s.* 4½*d.* per bushel.

One of the greatest drawbacks to the development of the wheat-growing industry in Russia has been the lack of facilities of transit. Until comparatively recent times, the whole of the grain was conveyed in the interior on canals and rivers. The cultivation of wheat for export was, accordingly, confined mainly to the neighbourhood of navigable rivers, with which the country is richly endowed. The condition of the empire in respect of railway communication may be gathered from the statistics published by the Board of Trade, which show that in 1890 Russia in Europe possessed one mile of railway to every 105 square miles of area, whereas the railway mileage of the United Kingdom at the same date was 1 mile to every 6 miles of area.

The larger proportion of the grain for export is still transported for long distances by river or canal. Particulars as to the cost of carriage by these waterways are difficult to obtain. But the following table of the rates, in spring, on the Volga between Rybinsk and Samara and Simbirsk, compiled from information given in the work by Dr. Oscar Mertens already referred to, is presented as indicative of the course of freight rates on one of the main channels of communication:—

Years.	Freights to Rybinsk from		Years.	Freights to Rybinsk from	
	Simbirsk.	Samara.		Simbirsk.	Samara.
	Pence per bshl.	Pence per bshl.		Pence per bshl.	Pence per bshl.
1878	2·47	3·00	1884	2·76	3·39
'79	2·91	3·84	'85	2·96	2·91
'80	2·16	2·84	'86	2·47	2·84
'81	2·80	2·72	'87	2·08	2·28
'82	2·72	3·36	'88	1·20	1·68
'83	2·96	3·72	'89	1·08	1·36

With respect to conveyance by rail, in the following statement the rail rates are shown from Samara and Saratov, which are important centres, as being points of contact between the railways and the river and canal traffic. The figures represent the charges per car-load.

Railway Freights.

Years.	To Odessa.		To Riga.	
	From Samara.	From Saratov.	From Samara.	From Saratov.
	Shillings.	Shillings.	Shillings.	Shillings.
1883	6·24	—	4·89	4·44
'84	6·24	4·31	4·67	4·45
'85	—	—	4·69	4·41
'86	—	—	4·69	4·41
'87	4·75	4·19	4·09	3·73
'88	4·53	—	3·38	3·38
'89	4·18	3·92	3·29	3·28

From the foregoing, it will be seen that in the period 1883-89 there was a substantial diminution in the costs of transport both by rail and water. A series of rates from other points could have been given, but it is sufficient here to state that they all show about the same reduction.

As regards the costs of carriage by sea, the following table, showing the freights on wheat from Odessa to London, has been taken from a return published by the Board of Trade:—

Grain Freights per Bushel. Odessa to the United Kingdom.

	s.	d.		s.	d.		s.	d.		s.	d.
January, 1872	1	2½	to	1	3¼	January, 1883	–	7¼		—	
" '73	–	11¼		—		" '84	–	5¼	to	–	5¾
" '74	1	–¾		—		" '85	–	4¾		—	
" '75	–	8	"	–	8¾	" '86	–	3¾	"	–	4
" '76	–	10½	"	–	11¼	" '87	–	4¾	"	–	5¼
" '77			—			" '88	–	5½	"	–	6
" '78	1	–¼	to	1	–¾	" '89	–	6	"	–	7¼
" '79	–	5¾	"	–	6¾	" 1890	–	5¾	"	–	6½
" 1880 ...	–	6¾	"	–	7¼	" '91	–	4¼		—	
" '81 ...	–	6¾		—		" '92	–	3		—	
" '82 ..	–	8		—							

There can be little doubt that freights in the earlier years were somewhat inflated; but, allowing for this, it is evident that the reduction has been considerable, and amounts to at least 50 per cent. in the twenty-five years.

In addition to the freights, there are the port charges for handling the grain. An official inquiry into these charges was made by the Russian Government in 1888. From the results of this investigation, published in 1889, it seems that the charges at that period amounted, in the port of Odessa, to about 4*d.* per bushel. In a later report, published by the Russian Ministry of Domains, it is shown that the port charges at Odessa in 1893 were about 2½*d.* per bushel.

So far as I can gather from the information at my disposal, the chief economic feature of wheat growing in the Russian Empire is a low cost of production, lower even than on the best virgin soils of the United States, due to the existence of a belt of rich black earth, which extends across the southern portion of the empire, and beyond the Ural mountains into Siberia.

The development of this fertile tract is, I believe, not yet complete, and with improved means of communication Russia should be able to dispose of her grain on the markets of Western Europe at a price lower than that which would attract wheat from the United States.

I have not been able to obtain particulars as to the course of railroad freights on grain in the earlier years included in this inquiry, but so far as the later years are concerned there would appear to have been a steady reduction in the costs of transport, both railway and marine, for Russian grain.

India.

The circumstances of wheat production in India have been exhaustively dealt with by Dr. Watt in his "Dictionary of the "Economic Products of India." From the information furnished in this work, and in the reports of Mr. O'Conor to the Indian Government, I have collated the following notes relating to the wheat supply of our Eastern Empire.

The area devoted to the cultivation of wheat in British India is about 20,000,000 acres, and in addition to this there is an estimated acreage in the native States of 5,700,000 acres, making a total area of approximately 26½ million acres. The average yield per acre may be taken at 10 bushels.

Prior to 1880-81 the exports of wheat from India were comparatively insignificant in volume. Since that year they have ranged, with many fluctuations, from 14,000,000 bushels to

58,000,000 bushels in a single year. The following statement shows the quantities exported annually from 1880-81 to 1892-93:—

Years.	Bushels.	Years.	Bushels.
1880–81 …………	13,995,000	1886–87…………	42,356,000
'81–82 …………	36,884,000	'87–88…………	26,129,000
'82–83 …………	26,288,000	'88–89…………	33,540,000
'83–84 …………	39,039,000	'89–90…………	26,729,000
'84–85 …………	29,818,000	'90–91…………	27,620,000
'85–86 …………	39,706,000	'91–92…………	58,026,000
		'92–93…………	27,950,000

The major portion of the exported grain is shipped to the United Kingdom. Next to England, France and Belgium are the most important consumers of Indian wheat. According to Dr. Watt, the wheat that is usually exported is grown essentially for the foreign market, and is not therefore merely the surplus over local requirements.

Several estimates of the cost of production are given in the "Dictionary of Economic Products." They range from a little over 12 rupees in the province of Bombay, to 31 rupees on irrigated soils in the North-West Provinces and Oudh. In the "Report of the Government of India on Wheat Production and "Trade in 1883," the average cost per acre, as ascertained from a series of experiments carried out in the North-West Provinces, was given as 18 rupees, made up as follows:—

Seed …………………………………………	2 rupees	
Ploughing ……………………………… Clod crushing ……………………… Sowing, weeding ……………………… Reaping ………………………………	6 "	8 annas
Rent …………………………………………	6 "	4 "
Irrigation …………………………………	3 "	12 "
Total ……………………	18 rupees	8 annas

It is pointed out that the labour in these experiments was not under very careful supervision, and would cost a ryot next to nothing, as it would be supplied almost entirely by himself and family. An unofficial estimate, quoted by Dr. Watt, puts the cost in the same provinces at 31 rupees per acre; but in this case there is a charge of 3 rupees for manure, and the items of labour and seed amounted to 16 rupees. For the province of Bengal, where the cultivation of wheat is said to be very remunerative in good clay soils, the outlay in producing a bushel of wheat is stated in the "Dictionary of Economic Products" to be about 13 rupees 4 annas.

If we accept the official estimate referred to above, the average cost of production would seem to be about 18 rupees; this sum at the nominal value of the rupee would be equivalent to about 3*s.* 7*d.* per bushel; at the exchange value of the rupee in 1892-93, it would represent an outlay of 2*s.* 4*d.*

The annual average price of an imperial bushel of wheat at Calcutta from 1869 is given in the Appendix. The prices are shown in rupees and in gold at the average rate of exchange of each year.

As regards freight rates in India, it is maintained by Dr. Watt that the reductions in transit charges accomplished in India since 1871 have been nearly as great as those effected in America, and there would seem to be evidence in support of his contention. In the Appendix to the Report of the Gold and Silver Commission a statement is given showing the average annual railway charges on the conveyance of wheat from Jubbulpore to Bombay between the years 1873 and 1886. This shows a reduction in rates of about 47 per cent. Some returns issued by the Calcutta Chamber of Commerce indicate a reduction of railway charges between that city and Cawnpore during the same period of approximately 30 per cent.

The figures relating to the rates between Jubbulpore and Bombay are reproduced below:—

Railway Rates on Wheat between Jubbulpore and Bombay.

Year.	Per Bushel.		Year.	Per Bushel.	
	s.	*d.*		*s.*	*d.*
1873	1	2½	1880	–	9½
'74	1	2¼	'81	–	9½
'75	–	10¼	'82	–	9¾
'76	–	9¾	'83	–	8½
'77	–	9¾	'84	–	8½
'78	–	9¼	'85	–	8
'79	–	9½	'86	–	7⅜

In the statement already alluded to, the marine freights from Bombay to the United Kingdom are given for the years 1873-86 and show a reduction in rates of roughly 60 per cent. in the fourteen years, as will be seen from the following table:—

Ocean Freights on Grain, Bombay to United Kingdom.

	Per Bushel.			Per Bushel.	
	s.	*d.*		*s.*	*d.*
1873	1	7	1880	1	–
'74	1	6	'81	1	1¾
'75	1	5	'82	–	10¼
'76	1	3¾	'83	–	9¼
'77	1	1¾	'84	–	6½
'78	–	7¼	'85	–	7¼
'79	–	9½	'86	–	5¾

For the later years, I am able to give particulars of the freights from Bombay, Calcutta, Madras, and Kurrachi, which have been furnished to me by the owners of the Cairn line of steamships. These exhibit a reduction of from 20 to 30 per cent.

Average Rates of Freight on Grain, in Pence, per Bushel of 60 lbs.

To United Kingdom from	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
Calcutta	12·5	9·9	10·3	10·9	12·4	10·3	10·9	9·1	8·4
Madras coast	12·3	10·3	11·0	11·1	13·7	11·1	10·9	9·5	8·8
Bombay	8·0	6·8	6·5	6·5	7·5	6·2	7·3	5·6	5·3
Kurrachi........	8·1	6·6	6·3	6·9	7·7	6·4	7·5	5·7	5·6

It may be of interest to show the gold price of wheat in Calcutta side by side with the declared value of Indian wheat imported into the United Kingdom, together with the freight rates from 1885 to 1893:—

Year.	Average Price of Wheat at Calcutta.	Average Value of Indian Wheat Imported into the United Kingdom.	Difference.	Freights. Calcutta to United Kingdom.
	s. *d.*	*s.* *d.*	*d.*	*d.*
1885............	2 10	4 –	14	12½
'86............	2 9	3 10	13	10
'87............	2 10¼	3 10¾	12½	10¼
'88............	3 –¼	4 –½	12	11
'89............	3 1	3 11½	10	12½
'90............	3 3	4 1	10	10¼
'91............	3 5	4 6½	13½	11
'92............	3 2¾	4 1½	10¾	9

On the whole, the preceding statement would go to show that in the years given, the difference in value between the two centres was made up to a large extent by the cost of carriage.

In the foregoing remarks an attempt has been made to outline the prominent features of the grain trade of the three important countries contributing to the wheat supply of the United Kingdom in the twenty-five years ending with 1893. In confining myself to the three countries, I have not overlooked the fact that they do not constitute the sole sources of our supply. The competition of Argentina in the wheat market has attracted a good deal of attention. Virgin soil, and a low cost of production, appear to be the principal factors in the rapid growth of her wheat industry. But the importance of this centre of production has been only recently made manifest, and I have nothing to add to what is already known as to the economic conditions under which the Argentine grain is produced.

With reference to the remaining wheat-exporting countries, I have furnished tables for Canada, Australia, Austria-Hungary, and Roumania.

Tables are also appended for a few wheat importing countries which have not been mentioned in the course of this paper.

In all these tables the figures given for imports and exports include wheat flour converted into its equivalent quantity of grain. In the case of those countries whose trade returns do not distinguish wheat flour from other flour, 70 per cent. of the flour exported or imported has been taken as wheat flour.

The information I have collected in respect of prices does not extend to 1894. In that year the average price of British wheat was only 2*s.* 10¾*d.* per bushel, a fall of 4¾*d.* from the average of the previous year, and of 10½*d.* from that of 1892. I have already pointed out that coincident with the decline of prices in 1892-93, there was a larger quantity of wheat available for consumption per head of the population than at any previous period, and from the following figures it would seem that the supply in 1894 was in excess of what had been usual prior to 1890 :—

United Kingdom.

Year.	Population.	Acreage.	Home Supply.	Imports.	Total Supply.	Available Supply per Head of Population (deducting 2 Bushels per Acre for Seed).	Proportion per Cent. of Foreign to Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.	Bshls.	
1894	38,776,000	1,977,330	54,176,693	180,780,600	234,957,293	5·96	76·9

The quantity available per head of the population works out to 5·96 bushels.

Conclusion.

In concluding this brief examination of some of the circumstances connected with the changes in the price of wheat, it may be desirable that I should indicate the general results of my inquiry. One conclusion seems obvious. No single factor can be pointed to as the sole cause of these changes. They have been effected by a combination of circumstances. But it would seem to be clear that an important element in the situation since 1879-81 has been the settlement and exploitation of fertile areas of virgin soil in the United States, which can be made to produce a given quantity of wheat at a lower cost than would be incurred in raising the same quantity in the older fields of production. This development has been concurrent with and, indeed, facilitated by extensions and improvements in the channels of communication and transport. Examples have been given above of the estimated cost of production in three great countries contributing to the bread supply of the United Kingdom. It has been shown that in a group of States producing two-thirds of the wheat crop of the United States, the estimated cost of production is 3*s.* 3*d.* per bushel, while in Dakota wheat can be grown at an outlay of 2*s.* 8*d.* per bushel. On a belt of black soil extending across the southern half of the Russian Empire, a bushel of spring wheat (this variety forms the bulk of the crop) can be produced, according to the official estimates, at an average cost of 2*s.* 6*d.* An official calculation puts the cost of production in India at 3*s.* 1*d.* per bushel, converting the rupee at its exchange value in the year in which the official estimate was made, 1879-80.

Let us now compare these estimates with such calculations as are available as to the cost of producing wheat in England. A number of statements on this point will be found in the Reports of the Assistant Commissioners to the Richmond Commission in 1881-82. The estimates for the different counties vary considerably, ranging from 5*l.* an acre in Yorkshire to 16*l.* an acre in Surrey. Taking the returns for Lincolnshire and Suffolk as typical wheat counties, the average outlay per acre works out to 7*l.* 10*s.* In giving evidence before the Royal Commission on the Depression of Trade and Industry in 1886, Mr. Druce estimated the cost of producing wheat in these counties at 7*l.* 8*s.* per acre in Lincolnshire and 7*l.* 12*s.* 4*d.* in Suffolk. Some estimates furnished by Mr. Coleman to the same Commission put the expenditure on heavy soils after fallow at 8*l.* 10*s.*, and on light soils at from 6*l.* to 6*l.* 10*s.* per acre. From some inquiries which I have made myself as to the cost of growing wheat in Essex, it would appear that from 6*l.* 10*s.* to 7*l.* 10*s.* per acre represented the average outlay about two years ago. If we accept 7*l.* per acre as approximately the average cost of production in this country, this would work out to 4*s.* 8*d.* per bushel.

So far then as the initial outlay is concerned, taking the above figures for what they are worth, the relative position of the producer in England in respect of his competitors in the countries named above might be shown as under:—

Cost of Production.

England.	United States.		Russia.	India.
	Western States.	Dakota.		
100	70	57	54	66

The exact measure in which the lower cost of production in the great wheat-exporting countries will be reflected in the value of their grain in consuming-markets depends of course on the charges for conveying the grain to its destination. These charges, as I have shown, have been materially reduced in the twenty-five years 1869-93, the reduction amounting, on the whole, to not less than 50 per cent. Here, then, we have two factors of some significance, which should not be forgotten when other theories are advanced to account for the fall in the price of wheat.

Another circumstance connected with the change in prices, and one which deserves perhaps more weight than I have given to it, is the fact that from 1881 to 1885, and again from 1891 to 1894 there was a larger quantity of wheat available for consumption in this country than at any other period in the last thirty years. This will be seen from the table on p. 80. From some calculations which I have made on the same principle of the supply of wheat available for consumption in the Netherlands, Belgium, France, and Italy, I find that in those countries also there appears to have been an accumulation in the years to which I have referred.

On the question of over supply, I would venture to quote some remarks of the late Sir James Caird. In giving evidence before the Commission on the Depression of Trade and Industry in March, 1886, he said :—

"I attribute the present depression of agriculture in this "country mainly to the encouragement given to the extension of "American farming, by the larger demands required of it, not "only by this country, but by Western Europe generally, during "the continuous failing crops on this side of the Atlantic for a "series of years; these same seasons in America having proved "very prolific. Railways were extended with amazing speed, "opening up great areas of rich land, production rapidly extended, "until it exceeded the power of consumption, because within the "last few years, through more bountiful seasons, we on this side of "the Atlantic, have been unable to absorb the vast quantities at "the former rate. It is a very extraordinary fact that, whilst we "have so much depression, we are distressed because there really "seems to be too great abundance. Nature seems to be so prolific, "and the art of man in converting it into use and cheapening the "cost of transport, has been so much extended and improved, that "the depression arises chiefly, I think, from the production having "for a time far outrun the consumption."

To conclude, the points I have endeavoured to bring out in respect of the supply and price of wheat are these :—

1. That the decline in the price of wheat has been more or less uniform in all European countries whose ports are free to grain.

2. That the fall is mainly the manifestation of a natural economic process, consisting in the settlement of new lands and the consequent extension of the margin of cultivation to regions where the cost of cultivation is much below that of the older centres of production.

3. That a review of the prices of the last quarter of a century would indicate that the fall has been more apparent since 1882 than in the earlier years.

4. That coincident with the fall since 1882 there has been an expansion of the wheat-growing area west of the Mississippi, particularly in Dakota.

5. That what is called the fall in price of wheat has consisted largely of an approximation of the prices in importing countries to those in the great exporting countries, owing to improvements in transport and reductions in the cost of carriage, that is to say, the fall has been, to a large extent, a fall in freights.

6. That one of the circumstances connected with the changes in the price of wheat between 1881-85 and since 1889, has been an increased quantity available for consumption per head of the population.

APPENDIX.

NOTE.—The figures in the following tables have been compiled from the Official Returns of the several countries named.

In the statistics of imports and exports shown in Tables II to XV, the imports and exports of flour have been taken into account. In the case of those countries whose trade returns do not distinguish wheat flour from other flour, 70 per cent. of the total imports or exports, as the case may be, of flour has been taken as wheat flour.

In converting flour into its equivalent of wheat in grain, 70 of flour has been taken as equal to 100 of wheat.

Bushels are in all cases imperial bushels.

TABLE I.—*Average Annual Price of Wheat per Bushel of 60 lbs.*

Year.	Great Britain. Gazette Average.		Belgium. Official Average.		Netherlands. Price at the Hague.		France. Official Average.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
1869	6	0¼	6	0¼	6	5	5	10½
'70	5	10¼	6	5	6	5¼	5	9¾
'71	7	1	7	4	7	7	7	2¾
'72	7	1½	7	3	7	6¾	6	7½
'73	7	4	7	7¾	8	0½	7	3¾
'74	6	11½	7	2½	7	7¼	6	11½
'75	5	7¾	5	8	5	11	5	2½
'76	5	9¼	6	1	6	2½	5	10
'77	7	1	7	1	6	10½	6	6½
'78	5	9½	6	3	6	4¾	6	6½
'79	5	5¾	6	0	5	10¼	6	1¾
'80	5	6½	6	2½	6	6¾	6	6½
'81	5	8	6	2½	6	6½	6	3½
'82	5	7½	6	0	6	3½	6	0½
'83	5	2¼	5	4¼	5	6½	5	5
'84	4	5½	4	9	5	2½	5	0½
'85	4	1¼	4	4	4	3½	4	8¾
'86	3	10½	4	1	4	3½	4	11¾
'87	4	0¾	4	2	—		5	1¼
'88	3	11¾	4	2¾	4	1	5	5
'89	3	8½	4	0	4	2	5	2¾
'90	3	11¾	4	3½	4	4¾	5	5½
'91	4	7½	5	0	5	1	5	11
'92	3	9¼	4	2¾	4	7¾	5	1¾
'93	3	3½	3	4½	3	5½	4	8

TABLE II.—UNITED KINGDOM. *Wheat Supply.*

Year.	Population.	Acreage.	Production.	Imports less Exports.
		Acres.	Bshls.	Bshls.
1864	29,701,000	3,685,000	129,731,000	55,001,000
'65	29,887,000	3,647,000	111,808,000	49,297,000
'66	30,148,000	3,661,000	91,881,000	55,883,000
'67	30,409,000	3,641,000	76,532,000	73,098,000
'68	30,690,000	3,951,000	133,867,000	68,193,000
1869	30,978,000	3,982,000	107,356,000	82,662,000
'70	31,257,000	3,774,000	112,844,000	63,599,000
'71	31,556,000	3,831,000	91,652,000	72,350,000
'72	31,874,000	3,840,000	91,851,000	87,354,000
'73	32,178,000	3,670,000	82,323,000	92,067,000
1874	32,502,000	3,831,000	111,784,000	89,799,000
'75	32,839,000	3,514,000	80,147,000	110,728,000
'76	33,200,000	3,124,000	77,864,000	94,382,000
'77	33,576,000	3,321,000	87,764,000	116,264,000
'78	33,944,000	3,382,000	101,178,000	108,218,000
1879	34,303,000	3,056,000	47,240,000	133,662,000
'80	34,623,000	3,066,000	74,916,000	124,185,000
'81	34,934,000	2,967,000	71,042,000	130,396,000
'82	35,206,000	3,164,000	80,922,000	129,987,000
'83	35,449,000	2,713,000	75,823,000	156,034,000
1884	35,724,000	2,751,000	82,067,000	120,599,000
'85	36,015,000	2,553,000	79,636,000	149,678,000
'86	36,313,000	2,358,000	63,348,000	119,834,000
'87	36,598,000	2,388,000	76,225,000	147,584,000
'88	36,880,000	2,668,000	74,493,000	148,268,000
1889	37,178,000	2,545,000	75,884,000	145,425,000
'90	37,483,000	2,484,000	75,994,000	151,887,000
'91	37,795,000	2,392,000	74,743,000	164,864,000
'92	38,109,000	2,299,000	60,775,000	175,653,000
'93	38,440,000	1,955,000	50,913,000	174,091,000

TABLE III.—UNITED STATES. *Wheat Supply.*

.	Population.	Acreage.	Production.	Yield per Acre.	Required for Seed.	Net Exports.	Total Supply available for Consumption.
		Acres.	Imp. bshls.	Imp. bshls.	Imp. bshls.	Imp. bshls.	Imp. bshls.
70	37,756,000	19,181,000	252,343,000	13·16	27,620,000	51,531,000	173,192,000
71	38,558,000	18,993,000	228,808,000	12·05	27,349,000	50,636,000	150,823,000
72	39,555,000	19,994,000	223,800,000	11·19	28,791,000	36,458,000	158,551,000
73	40,596,000	20,858,000	242,497,000	11·63	30,036,000	49,184,000	163,277,000
74	41,677,000	22,172,000	272,817,000	12·30	31,928,000	87,705,000	153,184,000
5	42,796,000	24,967,000	298,860,000	11·97	35,952,000	70,660,000	192,258,000
6	43,951,000	26,382,000	283,372,000	10·74	37,990,000	72,272,000	173,110,000
7	45,137,000	27,627,000	281,258,000	10·18	39,782,000	55,433,000	187,043,000
8	46,353,000	26,278,000	353,268,000	13·44	37,840,000	89,267,000	226,161,000
9	47,598,000	32,109,000	407,519,000	12·69	46,236,000	143,017,000	218,266,000
0	48,866,000	32,546,000	434,694,000	13·36	46,866,000	175,035,000	212,793,000
1	50,156,000	37,987,000	483,593,000	12·73	54,701,000	180,676,000	248,216,000
2	51,316,000	37,709,000	371,782,000	9·86	54,300,000	118,081,000	199,401,000
3	52,495,000	37,067,000	489,059,000	13·19	53,376,000	145,268,000	290,415,000
4	53,693,000	36,456,000	408,453,000	11·20	52,497,000	108,256,000	247,700,000
5	54,911,000	39,476,000	497,382,000	12·60	56,845,000	128,661,000	311,876,000
6	56,148,000	34,189,000	346,409,000	10·13	49,232,000	91,689,000	205,518,000
7	57,404,000	36,806,000	443,501,000	12·05	53,001,000	149,265,000	241,235,000
8	58,680,000	37,642,000	442,639,000	11·76	54,204,000	115,948,000	272,487,000
9	59,974,000	37,336,000	403,292,000	10·82	53,764,000	86,425,000	263,103,000
0	61,289,000	38,124,000	475,843,000	12·48	54,899,000	106,165,000	314,779,000
1	62,622,000	36,087,000	387,284,000	10·73	51,965,000	103,031,000	232,288,000
2	63,975,000	39,917,000	593,427,000	14·87	57,480,000	218,292,000	317,655,000
3	65,520,000	38,554,000	500,461,000	12·99	55,518,000	115,932,000	327,011,000
4	66,826,000	34,629,000	384,248,000	11·10	49,865,000	95,743,000	238,640,000

TABLE IV.—RUSSIA (*exclusive of Poland*). *Wheat Supply.*

Year.	Population.	Acreage.	Production.	Exports.
		Acres.	Bshls.	Bshls.
1868	—	—	—	—
'69	—	—	—	38,201,000
'70	65,704,559	—	217,096,250	57,898,000
'71	—	—	—	69,158,000
'72	—	28,743,390	157,938,000	59,087,000
'73	—	28,604,000 Average.	—	41,743,000
'74	—		—	48,737,000
'75	—		145,192,000	57,172,000
'76	—		—	56,419,000
'77	—		—	53,132,000
'78	—		—	105,760,000
'79	—		116,117,000	85,028,000
'80	—	—	—	38,048,000
'81	—	28,947,011	—	50,355,000
'82	—	—	—	78,636,000
'83	—	28,882,440 Average.	212,130,000	85,598,000
'84	—		258,562,000	69,951,000
'85	81,725,185		172,378,000	95,428,000
'86	—		155,403,000	54,126,000
'87	—		269,085,000	80,385,000
'88	—	—	286,476,000	130,822,000
'89	—	—	172,910,000	117,176,000
'90	—	—	206,329,000	111,614,000
'91	—	—	163,475,000	118,295,000
'92	—	32,633,000	234,035,000	50,718,000
'93	—	32,583,000	358,667,000	93,694,000

TABLE V.—INDIA (*including Bengal and Native States*). *Wheat Supply.*

Years.	Acreage.	Production.	Net Exports.
	Acres.	Bshls.	Bshls.
1871-72	—	—	1,189,000
'72-73	—	—	729,000
'73-74	—	—	3,264,000
'74-75	—	—	1,917,000
'75-76	—	—	4,650,000
'76-77	—	—	10,340,000
'77-78	—	—	11,134,000
'78-79	—	—	1,269,000
'79-80	—	—	4,159,000
1880-81	—	—	13,995,000
'81-82	—	—	36,884,000
'82-83	—	—	26,288,000
'83-84	—	—	39,039,000
'84-85	—	—	29,818,000
'85-86	—	—	39,706,000
'86-87	—	—	42,356,000
'87-88	—	—	26,129,000
'88-89	25,911,700	237,522,133	33,540,000
'89-90	24,773,000	228,592,000	26,729,000
1890-91	26,576,000	256,704,000	27,620,000
'91-92	24,482,000	206,640,000	58,026,000
'92-93	26,238,000	266,896,000	27,950,000

TABLE VA.—*Annual Average Prices of Wheat at Calcutta.*

Years.	Rupees per Bushel.	Equivalent Gold Price per Bushel.		Years.	Rupees per Bushel.	Equivalent Gold Price per Bushel.	
		s.	*d.*			*s.*	*d.*
1869	2·00	3	10½	1881	1·87	3	1¼
'70	2·00	3	9	'82	2·18	3	6½
'71	1·82	3	5¾	'83	2·19	3	6¼
'72	2·04	3	10½	'84	1·80	2	10½
'73	2·50	4	7¾	'85	1·87	2	10
'74	2·32	4	3½	'86	1·90	2	9
'75	1·80	3	3	'87	2·03	2	10¼
'76	1·69	2	10¾	'88	2·22	3	–¼
'77	2·21	3	10	'89	2·23	3	1
'78	2·42	4	–				
'79	2·35	3	11	1890	2·16	3	3
				'91	2·45	3	5
1880	2·21	3	8	'92	2·58	3	2¾

TABLE VI.—BELGIUM. *Wheat Supply.*

Year.	Population.	Acreage.	Production.	Excess Imports.
		Acres.	Bshls.	Bshls.
1864	4,940,570	660,391	15,361,000	3,555,000
'65	4,984,351	660,391	14,740,000	3,374,000
'66	4,827,833	700,363	14,070,000	2,863,000
'67	4,897,794	700,363	13,580,000	4,549,000
'68	4,961,644	700,363	17,511,000	5,086,000
1869	5,021,366	700,363	17,278,000	5,203,000
'70	5,087,826	700,363	16,487,000	5,862,000
'71	5,113,680	700,363	11,479,000	13,576,000
'72	5,175,037	700,363	17,334,000	6,740,000
'73	5,253,794	700,363	12,943,000	8,089,000
1874	5,336,634	700,363	19,652,000	8,662,000
'75	5,402,938	700,363	15,324,000	8,365,000
'76	5,336,185	700,363	14,855,000	10,606,000
'77	5,412,731	700,363	15,821,000	8,588,000
'78	5,476,939	700,363	16,671,000	11,690,000
1879	5,536,684	700,363	14,106,000	14,031,000
'80	5,520,009	681,552	17,650,000	14,621,000
'81	5,585,846	681,552	14,826,000	14,416,000
'82	5,655,197	681,552	15,495,000	15,062,000
'83	5,720,807	681,552	16,132,000	16,621,000
1884	5,784,958	681,552	15,988,000	17,574,000
'85	5,853,278	681,552	16,641,000	19,022,000
'86	5,909,975	681,552	16,572,000	18,349,000
'87	5,974,743	681,552	16,504,000	21,318,000
'88	6,030,043	681,552	14,933,000	22,742,000
1889	6,093,798	681,552	18,970,000	21,706,000
'90	6,069,321	681,552	21,561,000	24,628,000
'91	6,136,444	681,552	16,405,000	34,977,000
'92	6,195,355	681,552	18,788,000	27,787,000
'93	6,262,272	681,552	16,770,000	27,984,000

TABLE VII.—NETHERLANDS. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Imports.	Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.
1874	3,742,000	231,703	6,573,000	4,838,000	11,411,000
'75	3,788,000	235,611	6,190,000	4,057,000	10,147,000
'76	3,837,000	211,955	5,256,000	4,238,000	9,494,000
'77	3,895,000	221,085	4,823,000	7,602,000	12,425,000
'78	3,953,000	232,042	5,479,000	6,505,000	11,984,000
'79	4,009,000	329,845	4,869,000	7,218,000	12,087,000
80	4,049,000	228,682	5,721,000	11,293,000	17,014,000
'81	4,087,000	218,790	4,558,000	7,895,000	12,453,000
'82	4,144,000	229,491	5,272,000	7,521,000	12,793,000
'83	4,199,000	214,040	5,457,000	10,830,000	16,287,000
'84	4,252,000	219,193	5,710,000	9,447,000	15,157,000
'85	4,307,000	209,364	6,139,000	11,000,000	17,239,000
'86 ...	4,363,000	199,203	5,076,000	10,760,000	15,836,000
'87	4,421,000	210,429	6,677,000	11,902,000	18,579,000
'88	4,478,000	209,098	5,083,000	11,403,000	16,486,000
'89	4,527,000	210,879	6,273,000	11,710,000	17,983,000
'90	4,538,000	209,557	5,258,000	11,538,000	16,796,000
'91	4,593,000	144,700	3,393,000	15,497,000	18,890,000
'92	4,646,000	183,314	5,214,000	13,115,000	18,329,000
'93	4,701,000	—	—	12,038,000	—

TABLE VIII.—ITALY. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Imports.	Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.
1874	27,299,000	11,551,000	142,423,000	11,911,000	154,334,000
'75	27,465,000	11,551,000	139,970,000	9,212,000	149,182,000
'76 ...	27,630,000	11,551,000	139,970,000	9,335,000	149,305,000
'77 ...	27,796,000	11,551,000	139,970,000	5,031,000	145,001,000
'78	27,962,000	11,551,000	139,970,000	10,545,000	150,515,000
'79	28,128,000	11,551,000	139,970,000	17,075,000	157,045,000
'80	28,294,000	11,551,000	139,970,000	5,467,000	145,437,000
'81	28,460,000	11,551,000	100,706,000	1,927,000	102,633,000
'82	28,648,000	11,551,000	150,232,000	2,508,000	152,740,000
'83	28,837,000	11,700,000	120,575,000	5,580,000	126,155.000
'84	29,026,000	11,700,000	123,884,000	11,630,000	135,514,000
'85	29,215,000	11,700,000	106,861,000	26,054,000	132,915.000
'86	29,403,000	11,700,000	109,734,000	34,046,000	143,780,000
'87 ...	29,592,000	11,700,000	115,633,000	37,073,000	152,703,000
'88	29,781,000	11,700,000	101,033,000	24,462,000	125,495,000
'89	29,970,000	11,700,000	105,575,000	31,994,000	137,569,000
'90	30,158,000	10,886,000	127,380,000	23,646,000	151,026,000
'91	30,347,000	11,120,000	137,093,000	17,002,000	154,095,000
'92 ...	30,536,000	11,189,000	112,109,000	25,559,000	137,668,000
'93	30,725,000	11,253,000	131,048,000	31,633,000	162,681,000

TABLE IX.—FRANCE. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Imports.	Net Exports.	Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.	Bshls.
1868	38,330,000	17,445,000	321,153,000	28,580,000	—	349,733,000
'69	38,455,000	17,374,000	297,039,000	2,653,000	—	299,692,000
1870	36,985,000	—	—	—	—	—
'71	36,544,000	15,803,000	200,217,000	37,870,000	—	238,087,000
'72	36,103,000	16,962,000	327,346,000	4,131,000	—	331,476,000
'73	36,281,000	17,207,000	230,618,000	10,868,000	—	241,586,000
'74	36,460,000	17,153,000	375,011,000	23,812,000	—	398,823,000
'75	36,638,000	17,231,000	279,649,000	—	5,069,000	274,580,000
'76	36,906,000	16,977,000	271,330,000	10,305,000	—	281,635,000
'77	37,048,000	17,162,000	277,212,000	—	1,442,000	275,770,000
'78	37,147,000	17,180,000	265,227,000	49,004,000	—	314,231,000
'79	37,366,000	17,115,000	222,473,000	80,711,000	—	303,184,000
1880	37,519,000	16,978,000	276,523,000	72,680,000	—	349,203,000
'81	37,672,000	17,184,000	266,244,000	47,167,000	—	313,411,000
'82	37,769,000	17,235,000	235,868,000	48,466,000	—	284,334,000
'83	37,866,000	16,959,000	288,125,000	38,412,000	—	326,537,000
'84	37,949,000	17,419,000	314,135,000	40,597,000	—	354,732,000
'85	38,128,000	17,183,000	302,120,000	24,568,000	—	326,688,000
'86	38,219,000	17,182,000	295,039,000	26,902,000	—	321,941,000
'87	38,320,000	17,209,000	309,254,000	33,661,000	—	342,915,000
'88	38,390,000	17,236,000	271,537,000	42,654,000	—	314,191,000
'89	38,460,000	17,386,000	297,879,000	42,920,000	—	340,799,000
1890	38,430,000	17,442,000	321,519,000	39,967,000	—	361,486,000
'91	38,343,000	14,226,000	213,458,000	75,386,000	—	288,844,000
'92	38,323,000	17,257,000	225,229,000	70,616,000	—	295,845,000
'93	—	17,470,000	268,928,000	36,537,000	—	305,465,000

TABLE X.—SCANDINAVIA (*Denmark, Sweden, and Norway*). *Wheat Supply.*

Years.	Population.	Production.	Net Imports.	Net Exports.	Total Supply.
		Bshls.	Bshls.	Bshls.	Bshls.
1875	8,045,000	7,606,000	—	1,786,000	5,820,000
'76	8,129,000	6,864,000	—	2,077,000	4,787,000
'77	8,221,000	7,308,000	240,000	—	7,548,000
'78	8,317,000	8,645,000	—	268,000	8,377,000
'79	8,409,000	7,937,000	—	544,000	7,393,000
1880	8,462,000	8,614,000	—	467,000	8,147,000
'81	8,483,000	5,155,000	2,331,000	—	7,486,000
'82	8,508,000	8,285,000	2,492,000	—	10,777,000
'83	8,544,000	7,749,000	3,894,000	—	11,643,000
'84	8,606,000	8,714,000	4,442,000	—	13,156,000
'85	8,684,000	9,347,000	3,710,000	—	13,057,000
'86	8,755,000	8,946,000	2,749,000	—	11,795,000
'87	8,814,000	10,245,000	3,734,000	—	13,979,000
'88	8,859,000	7,615,000	4,004,000	—	11,619,000
'89	8,904,000	8,629,000	5,098,000	—	13,720,000
1890	8,937,000	8,021,000	3,890,000	—	11,911,000
'91	8,983,000	9,180,000	6,791,000	—	15,971,000
'92	9,026,000	9,475,000	7,470,000	—	16,945,000
'93	9,068,000	8,646,000	9,873,000	—	18,519,000

TABLE XI.—GERMANY. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Imports.	Net Exports.	Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.	Bshls.
1878	44,127,000	4,493,000	95,771,000	10,054,000	—	105,825,000
'79	44,639,000	—	83,704,000	116,22,000	—	95,326,000
1880	45,093,000	4,485,000	86,281,000	—	913,000	85,368,000
'81	45,426,000	4,490,000	76,485,000	10,907,000	—	87,395,000
'82	45,717,000	4,499,000	93,946,000	18,996,000	—	112,942,000
'83	46,014,000	4,745,000	86,508,000	16,920,000	—	103,478,000
'84	46,334,000	4,740,000	91,194,000	23,216,000	—	114,410,000
'85	46,705,000	4,727,000	95,628,000	16,601,000	—	112,229,000
'86	47,132,000	4,735,000	97,768,000	5,262,000	—	103,030,000
'87	47,628,000	4,742,000	103,796,000	15,504,000	—	119,300,000
'88	48,166,000	4,774,000	92,798,000	9,108,000	—	101,906,000
'89	48,715,000	4,832,000	86,988,000	14,109,000	—	101,097,000
1890	49,239,000	4,842,000	103,800,000	20,919,000	—	124,719,000
'91	49,767,000	4,657,000	85,572,000	29,877,000	—	115,449,000
'92	50,279,000	4,880,000	115,972,000	64,638,000	—	180,610,000
'93	50,778,000	5,050,000	109,810,000	21,415,000	—	131,225,000

TABLE XII.—ROUMANIA. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Exports.
		Acres.	Bshls.	Bshls.
1875	4,754,079 (Census of 1870)	—	32,182,000	—
'76	—	2,629,000	20,698,000	—
'77	—	—	—	—
'78	—	—	—	—
'79	—	—	—	—
1880	—	—	—	14,968,000
'81	—	—	—	7,231,000
'82	—	—	—	14,811,000
'83	—	—	—	14.547.000
'84	—	—	—	9,564,000
'85	—	—	—	14,595,000
'86	—	—	—	18,799,000
'87	—	—	—	18,836,000
'88	—	—	—	31,234,000
'89	—	3,310,000	48,454,000	35,524,000
1890	—	3,729,000	51,987,000	34,303,000
'91	—	3,810,000	44,264,000	—
'92	5,800,000	3,779,000	58,395,000	—
'93	—	—	—	—

TABLE XIII.—AUSTRIA-HUNGARY. *Wheat Supply.*

Years.	Population.	Acreage.	Production.	Net Imports.	Net Exports.	Total Supply.
		Acres.	Bshls.	Bshls.	Bshls.	Bshls.
1874	—	6,928,000	99,459,000	6,372,000	—	105,831,000
'75	—	8,057,000	77,326,000	—	1,505,000	75,821,000
'76	36,723,000	8,850,000	84,037,000	—	1,194,000	82,843,000
'77	36,961,000	8,369,000	108,726,000	—	12,657,000	96,069,000
'78	37,170,000	8,671,000	149,663,000	—	14,605,000	135,058,000
'79	37,441,000	8,515,000	84,095,000	—	12,293,000	71,808,000
1880	37,700,000	8,411,000	116,206,000	3,411,000	—	119,617,000
'81	37,933,000	8,681,000	125,485,000	—	1,020,000	124,465,000
'82	38,234,000	8,672,000	170,855,000	—	12,099,000	158,756,000
'83	38,563,000	9,046,000	124,728,000	—	11,039,000	113,689,000
'84	38,974,000	9,529,000	146,367,000	—	4,926,000	141,441,000
'85	39,349,000	9,719,000	157,089,000	—	6,170,000	150,919,000
'86	39,749,000	9,727,000	142,942,000	—	12,124,000	130,818,000
'87	40,148,000	9,733,000	192,144,000	—	12,527,000	179,617,000
'88	40,518,000	9,771,000	181,915,000	—	22,727,000	159,188,000
'89	40,967,000	9,893,000	127,830,000	—	15,799,000	112,031,000
1890	41,299,000	10,191,000	186,154,000	—	13,551,000	172,603,000
'91	41,671,000	10,187,000	174,787,000	—	8,992,000	165,795,000
'92	42,091,000	10,347,000	186,781,000	—	3,923,000	182,858,000
'93	42,470,000	11,410,000	203,806,000	—	3,567,000	200,239,000

TABLE XIV.—CANADA. *Wheat Supply.*

Years	Population.	Acreage.	Production.	Net Imports.	Net Exports.
		Acres.	Bshls.	Bshls.	Bshls.
1868	—	—	—	—	102,000
'69	—	—	—	—	2,939,000
1870	—	—	—	2,419,000	—
'71	3,485,761	—	—	10,095,000	—
'72	—	—	—	792,000	—
'73	—	—	—	—	1,639,000
'74	—	—	—	—	4,952,000
'75	—	—	—	—	1,154,000
'76	—	—	—	—	3,609,000
'77	—	—	—	2,398,000	—
'78	—	—	—	—	3,697,000
'79	--	—	—	—	6,327,000
1880	—	*	*	—	6,890,000
'81	4,324,810	2,342,000	32,350,000	—	3,078,000
'82	—	1,775,000	40,951,000	—	5,039,000
'83	—	1,892,000	26,326,000	—	6,897,000
'84	—	1,893,000	41,501,000	1,987,000	—
'85	—	2,042,000	37,597,000	—	273,000
'86	—	1,848,000	33,310,000	—	4,333,000
'87	—	1,815,000	32,425,000	—	7,360,000
'88	—	1,194,000	20,284,000	—	3,431,000
'89	—	1,844,000	25,901,000	554,000	—
1890	—	2,068,000	36,617,000	424,000	—
'91	4,833,239	2,277,000	55,776,000	—	3,081,000
'92	—	2,494,000	43,237,000	—	10,158,000
'93	—	2,274,000	37,347,000	—	10,553,000

* Ontario and Manitoba only.

TABLE XV.—ARGENTINE REPUBLIC. *Wheat Supply.*

Year.	Wheat Area.	Export.
	Acres.	Bushels.
1883....................	601,445	2,227,680
'84....................	—	3,978,296
'85....................	—	2,878,092
'86....................	—	1,488,352
'87....................	—	8,721,748
'88....................	2,036,254	6,560,708
'89....................	—	836,229
'90....................	—	12,002,778
'91....................	—	14,503,692
'92....................	3,265,340	17,237,366
'93....................	5,500,000	36,965,021

Discussion on Mr. Crawford's Paper.

Mr. A. F. Jeffreys, M.P., said that he should have liked to have seen a table giving the number of bushels of wheat produced per acre in the various countries. It was sometimes thought that we in England did not grow wheat to advantage because we were not good enough farmers, but the fact was quite the reverse, for we grew more per acre than any other country (except Holland) in the world. Here we grew 28 bushels to the acre, whilst in Dakota only 13½ were grown, and yet we could not compete with the latter. He believed the reason to be that there were in England so many charges on the land which had to be paid first, whereas other countries, with practically no charges, and aided by very low freights, could place their wheat here on the same footing as our own. The low cost of production in Russia (*2s. 6d.* per bushel) was attributable chiefly to wages there being only 11½*d.* per day; besides which the work was often undertaken by the whole family, no outside labour being employed. It seemed a matter worthy of consideration by the people of England, especially those living in towns, whether they should not encourage the growth of wheat, in order to give employment to the large rural population; not that the townspeople could be expected to burden themselves by giving work to the latter, but they would feel the necessity of so doing when this large population from the country came in and overwhelmed the workers of the great towns. The area under wheat in the United Kingdom had declined in the course of a single generation from 4 to under 2 million acres. Harvesting was much cheaper in the United States, and especially in South America, and this was due to the difference in the weather. The English farmer was bound to cart his wheat off the land as quickly as possible, thatch it, and wait till the spring before it was marketable; in America it was not thatched, but was threshed in the field, and stored immediately in elevators. Mr. Crawford had not alluded to the immense increase in the supply from Argentina: the great influx of wheat from that country, which was aided by a depressed currency, had flooded the market, and English farmers were quite unable to compete with it. A few years ago they believed prices had reached an equilibrium, until Argentina found it was worth her while to send wheat over here, and since that time prices had continued to decline. He concluded by expressing his thanks to Mr. Crawford for his very interesting lecture.

Mr. A. B. Freeman-Mitford, M.P., said that there was one phenomenon which to him was perfectly inexplicable, and that was that in every wheat-growing country at the present moment wheat was being produced at a price higher than that for which it sold, with the single exception of Russia, and even in the latter country there was a dead loss to the amount of the freight. In all other countries the cost of production varied from 3*s.* 3*d.* per bushel upwards, which represented a distinct loss on present prices.

Mr. R. H. Inglis Palgrave referred to the table of the prices of wheat in Great Britain, Belgium, the Netherlands, and France. Down to about 1882 the variations in the price corresponded roughly in these four countries, but after that date the duty in France had been raised at various periods. It was important to know how far the duty was reflected in the price of the article. Mr. Crawford had given the official prices in France at various dates, and it would be an advantage if he could indicate what proportion was to be attributed to the duty at each period. In another table Mr. Crawford had compared the cost of production in different countries; it would lend to the value of this statement if the proportional figures representing the cost of transit could be placed beneath those of the cost of production. The "Gazette" prices given in Table I applied to British wheat only, but he should be glad to see the price of foreign wheat in this country at the same time. A most interesting point was the average supply per head of the population. In 1891-93 it was 6·17 bushels; in 1894, when the average price of British wheat was only 2*s.* 10½*d.*, the available supply was only 5·96 bushels, which was distinctly below what it had been when the price was considerably higher. Here obviously the ordinary law of supply and demand did not account for the price, and this was one of the most important points in the paper.

Mr. J. Barr Robertson, while regarding the paper and the large body of statistical information as of the very highest importance, could not agree with the author's conclusions, and said that the last speaker had indicated some points upon which further evidence was required. Mr. Crawford's tables on p. 96 showed that 1885-93 was a period of falling freights, but according to the figures in the paper it had not been, either in England or India, a period of falling prices, and he understood the main contention of the paper to be that owing to certain economies, and chiefly owing to lower rates of transit, there had been a fall in prices in gold money countries. If they valued the price of wheat in *silver*, beginning with 1873, and supposing the price in London and that in Bombay to be each 100 in that year, it appeared that in the twenty-two years 1871-92 the silver price in England would be represented by 88, and at Bombay by 91½, a difference of only 3½ per cent. With this small difference over a period of twenty-two years, where was the economy of prices owing to lower freights as between Bombay and London? The figures he had produced showed that cheap freights might lead to higher prices in the producing countries without necessarily altering prices in the consuming markets. From all this he thought that it was not conclusive that lower freights had been even an important factor in producing lower prices in this country. The prices of wheat in Bombay, taken from "Prices and Wages in India," were higher in January, 1891, 1892, 1893, and 1894, *i.e.*, during the four years which had witnessed the extraordinary depression in England, than the average of the twenty-two years 1871-92. He had dealt solely with silver prices, because silver had been a more stable standard of value than gold during the last twenty years. Mr. Crawford had not touched upon this point, but he thought the figures so overwhelming as to point to the conclusion that the author's inferences were not the real reason of any material fall in prices. He would quote Mr. Sauerbeck's index numbers for wheat and for 45 commodities. They were as follows:—

	1851-60.	1861-70.	1871-80.	1881-90.	1891-93.
Wheat	100	94	94	66	57
45 commodities	94	100	96	75	69

He gave these figures merely as indicating that the divergence between the price of wheat and that of the 45 commodities was not so great as was generally supposed, and it was necessary not only to account for the fall in the price of wheat, but also in the prices of the 45 commodities. In the last two years there had been an extraordinary fall in the price of wheat, but there had also been a great dislocation in the entire trade and industry of the world, and his belief was that the condition of trade in the last two years was something quite exceptional, and would require special investigation.

Mr. W. J. Harris said that the last speaker apparently wished them to believe that the fall in wheat had been almost entirely caused by the depreciation of the rupee in India, but as both the United States and Russia supplied us with at least ten times as much wheat as India, he could not accept the solution that the farmers in those two countries had all been willing to submit to a fall in price which the Indian ryot had not felt, because the latter had the advantage of depreciated silver. He had a great suspicion of all estimates, and especially Government estimates, of cost of production, whether in England, India, or the United States, and he agreed with the author that the figures on this head were extremely doubtful; in spite of the evidence of the four thousand experts of the United States Government, he had not the least confidence in their report. He himself had a friend farming in California who had informed him that he had, even in this past year, made a profit on his wheat. He did not wish to infer that this was generally the case however. Mr. Palgrave had inquired what was the effect of an import duty on price: he could assure him that when France advanced the duty on wheat, the cost, freight, and insurance price for cargoes coming to port of call for orders with option of both England and France had fallen, though not by the amount of the extra duty. There would be great difficulty in giving Mr. Palgrave any fixed quotations for foreign wheat in England, the quality varied so much. While 26*s.* and 28*s.* might be paid for Dakota or Duluth wheat, certain hard wheats from Russia would be gladly sold for

18s. per quarter. There was all that difference. The average consumption per head was a most fallacious test of total consumption, for a great deal of wheat was at these prices consumed by animals. He did not believe that the home consumption by human beings had varied 1 per cent. in England during the last sixty years. It was about 6 bushels per head when G. R. Porter wrote, and it was the same now, though it should be noted that Porter's figures referred to England alone. The Irish consumed a great deal of maize, meal, potatoes, &c., and consequently less bread, and as their population was declining, while that of England was increasing, this consideration greatly modified any calculations as to the human consumption per head of the United Kingdom. One conclusion he drew was that apart from Argentina, Russia was likely to supplant all other sources of supply, and this, he thought, accorded with the general view of the corn trade. In both the United States and Russia there were an enormous number of farmers working their own freeholds, but the Americans would not be content to live so hardly as the Russians. The latter first endeavoured to produce from their land enough for their families, and then sold the surplus. If they received very little for the surplus, they lived the harder, and if they received much they took more land. They were not like the Americans, who farmed for profit, paid wages, calculated what they had to expend, and found themselves losers after all in consequence of the wages they paid. The Russian peasant farmer could not find himself a loser in the end, because he had kept himself and his family, though he might have to go without certain luxuries. In India the population was enormous, and when wheat went down in price it came into competition with other articles of food, and was no longer available for export. The natives had recently been consuming the wheat themselves. In the last cereal year ending 31st July, 1894, Russia had contributed as exports 44,000,000 qrs. of all sorts of corn to the world's wants, while the United States had only exported 30,000,000 qrs., and Roumania, which was practically dominated by Russia, came third with 16,500,000 qrs. In fact Russia and Roumania combined practically supplied the world with about 56 per cent. of all its corn requirements, while India came one of the last with a contribution of only about 2 per cent. Could anyone believe that the 2 per cent. supplied by India lowered the price of the whole 98 per cent. by so great a decline as we now saw? It was only in consequence of the fact that the United States happened to have a crop 50 per cent. larger than usual in 1891, that wheat was not forced up to famine prices in that year, when Russia for a few months prohibited the export. Looking to the future, it seemed that we were becoming more and more dependent on foreign countries, and especially on Russia, and it became a very serious matter, when it was remembered that by a single stroke of the pen the supplies could be stopped at a moment's notice. Many millions were spent every year on the navy, in the belief that a food supply was thereby secured; but this was a fallacy. The supplies could be cut off by one power alone, and two combined could bring

England to terms without using a ship or a soldier. Russia could keep her crops in the country by paying for them with paper, while France could buy the greater part of the supplies upon which we depended from other countries before we even knew of their intentions.

Rev. Canon J. L. **Brereton** said that the paper had confirmed his own views, which had rather put him in opposition to the County Chamber in Norfolk as to the causes of, and remedies for, agricultural depression. Mention had been made of the charges on land in England as one of the great burdens on agriculture, but he was inclined to think that these charges were, on the contrary, a great advantage to the English farmer, in that provision was already made for certain important social wants (by tithe and poor rate), so that he did not need to consider their effect on his business, as they had been already taken into account in the rent. It had also been said by the Chairman of the Central Chamber that a bonus on wheat growing was desirable in order to keep up the wages, but he was convinced that the only effect of such a step would be to bring back the times when the interference of the State, either directly or indirectly, had produced the greatest possible mischief. One of the most satisfactory facts brought forward by Mr. Crawford was that free trade tended to make the price uniform rather than to reduce it. The great discouragement to farmers formerly had been the sudden fluctuations which interfered so much with their calculations. The natural effect of the reduction in the price of wheat in his own parish had been to throw it out of cultivation; but the land had not gone out of cultivation, because barley and oats were freely grown, and every acre was cultivated, and he did not think there was any great injury to arable farming so long as other grains were grown. He sympathised with the last speaker as to the future, but he thought that if there were any prospect of war, England would immediately buy up supplies, which she could do far more quickly than any other country. As regarded freights, Norfolk had derived the greatest benefit from railway competition, which had enabled land in his neighbourhood to be kept in cultivation.

Mr. H. R. **Beeton** wished to point out that any inquiry into the *price* of wheat was an inquiry into the *purchasing power* of wheat in *terms of money*. Mr. Crawford's paper, by excluding any reference to money, was an inquiry into the purchasing power of wheat in terms of *commodities in general*, *i.e.*, into the fall, not in the *price*, but in the *value* of wheat. The fall in the average index number of commodities being the measure of the appreciation of money, if this latter were excluded, then 39 out of the 59 per cent. of fall was excluded, and the inquiry became an inquiry into the fall in the price of wheat below the fall in the price of commodities in general. In other words, it was an inquiry into the causes why wheat had fallen, not from 100 to 41, but from 61 to 41. The economic significance of a fall in the price, in so far as it is due to the appreciation of money, was that a portion of the product of wheat was unintentionally transferred from the farmer to the landlord or mortgagee, in consequence of the rent and interest not falling proportionately and simultaneously with the price of the crops. Whereas the economic significance of a fall in the price of wheat, in so far as it was *not* due to the appreciation of money, was that a portion of agricultural rent was extinguished in consequence of the extension of the margin of cultivation. The reason why wheat had fallen more than other commodities was that more wheat was supplied in demand for commodities on an average than commodities on an average were supplied in demand for wheat, and the reason of this was that the cost of production of wheat was reduced more than the cost of production of commodities on an average. The inquiry, as limited by the author, resolved itself into two chapters (1) the reduction in the cost of raising wheat, and (2) the reduction in the cost of transport; the latter being the more important (he was speaking here of *real* freights; the fall in the price of freights could not explain the fall in the price of wheat, inasmuch as both were the effect of the same cause—appreciation of money). If we took Mark Lane as a centre, and imagined curves of equal freights drawn around it, each successive area would represent a greater cost of transportation, and by consequence a smaller cost of cultivation. With reductions in freights, and consequent extension of the area of cultivation, the more fertile soils in the remoter areas would displace the less fertile soils in the nearer areas. An investigation of this kind would show that with the progress of invention the same expenditure of capital and labour had continually represented the power to transport the same quantity of wheat a greater distance, and the more fertile soils in the area so reached had thrown out of cultivation the less fertile soils in the areas previously resorted to, and (2) that similar causes represented the power to raise the same quantity of wheat by resort to less fertile soils, and consequently to raise more wheat by the extension of the margin of cultivation in all areas tributary to the market. In the last analysis therefore, when the inquiry was restricted by the exclusion of the influence of money, it would be found that the fall in the *value* of wheat, although a loss to the landlords, was a gain to society, for which it was indebted to the progress of invention.

Mr. H. **Moncreiff Paul** considered that the author had exercised a wise discretion in not importing into his interesting paper any arguments *quâ* bimetallism or protection. He however regretted that Mr. Crawford had not been able to carry the figures further back than 1864. The average "Gazette" price of wheat for the last fifty years was 47*s.* 1*d.* per quarter, against an average in 1894 of 22*s.* 10*d.* and 20*s.* at this date, while the lowest figure touched was 17*s.* 6*d.* on 20th October, the last three months of the year averaging 19*s.* 7*d.* There had been no such price for two centuries, nor so low a yearly average since 1744, when it was 22*s.* 1*d.* per quarter. There were one or two corrections to be taken into account in considering the "Gazette" average. It included damaged wheat sold in various markets, which might be a serious factor in certain years; and the number of towns contributing to this average was also larger than formerly. He, as well as others, had not much faith in the figures of the cost of production in various countries. Mr. Crawford appeared to indicate that the cost of production was greater in India than in Russia; he himself doubted this, and thought that wheat was produced most cheaply in Argentina, where the cost of production was computed to be 10*s.* per quarter, 12*s.* per quarter being the estimated cost in India. This was the cost measured in sterling, regard being had on the one hand to the depreciation of the rupee in India, and on the other to the depressed Argentine currency. India during the last seven years had produced about 10½ per cent. of the world's supply, but this had little influence on the exports: for if prices were too low, the wheat would be buried until they rose. The proportion of the produce of Argentina to the world's supply during the same period was 2·2 per cent. Comparing prices of wheat and of other grains, wheat was about 4*s.* 8*d.*, barley being 6*s.* –¾*d.*, oats 4*s.* 10*d.*, and maize 4*s.* 10*d.* per cwt. This of course could not continue. Formerly much maize was exported from the United States in the form of bacon, and the same sort of thing was now going on with wheat. Regarding the production from virgin soils in the United States and elsewhere, by constant cropping without manure a great deal was taken out of them for a time, but there was no desire on the part of the cultivators to make the most of such land, and as soon as it showed signs of exhaustion, the "carpet-bag" farmer moved elsewhere and devoted himself "to pastures new."

Mr. A. SAUERBECK did not believe that prices were regulated by the lowest cost of production. Neither India, Argentina, or Dakota had given more than 3 or 4 per cent. of the total wheat supply of Europe and North America. If 10 per cent. of the whole supply had been produced at a very low cost, and if this price were to regulate the market for ever, then 90 per cent. of the production would always be produced at a loss. He had found that from 1871-75 the average annual supply of Europe and North America was about 1,360,000,000 bushels; in 1893 and 1894 it was on the average 1,850,000,000 bushels, an increase of about 36 per cent. This agreed fairly well with the increase in the wheat production of the whole world given by Beerbohm's "Circular," *i.e.*, 38 per cent. (from 1,760,000,000 bushels in 1873 to 2,440,000,000 in 1894). The population in this time increased by about 26 per cent., and taking this into consideration, the increase in wheat was about 8·10 per cent. The chief reason of the fall in price, independent of the monetary question, was that the consumption of wheat per head did not increase very much, and that the surplus was used for feeding cattle, where it competed with other corn, of which the production had also been very large. He had a short time previously noticed various statistics concerning Russia in the Report of the German Silver Commission. It was there stated that twenty years ago the Russian farmer or peasant got very little for his wheat, because the cost of transport was very large: but that now the cost of transport had fallen, he could compete, and that the prices in Germany had fallen accordingly. He did not himself see why all improvements should only have the effect of depressing prices in the old countries and not of raising them in the new ones, and why the Russian peasant should not share in these improvements.

The PRESIDENT (Right Hon. Lord FARRER) said that at the present time, when there was so much dispute about prices, currency, protection, &c., the most valuable aid was afforded by tracing the history of any particular article, and how far any particular circumstances accounted for a change in the price. In the present paper he had been particularly interested in the estimates of the cost of production. If this cost could be obtained for each separate country, and the freight added, they would at once be able to compare the expenses of different countries. If the cost of production in America, plus the freight, were less than the cost of production here, that was an economic cause why American produce should compete successfully in English markets. He was sorry to see that there were no estimates of the cost of production for Argentina, for he understood that the Americans were more afraid of the competition of that country than of any other. These economic causes, he had always believed, were of paramount importance, and had much more to do with prices than currency and other factors to which people often referred. If so, the best service that could be done to economic science was the investigation of these causes.

Major P. G. CRAIGIE agreed with the President that no better service could be rendered by the younger Fellows of the Society than by endeavouring to work out in necessarily laborious detail, and with due appreciation of their relative weight, the precise factors which must be handled by those who looked at the question as a whole. Speaking as an official of the Society, he could bear witness to the care and attention with which Mr. Crawford had tackled the subject. Much of the work undergone could not be apparent to those who were not acquainted with the difficulty of securing comparable data. In drawing definite conclusions from the figures now before them, he would nevertheless urge the old caution that in these researches it was very needful to discover how far the tools they were using could be trusted. They were not certain, for instance, of the precise similarity of the methods employed in arriving at the cost of production in the districts contrasted. One thing had struck him very much in regard to one part of this question, and that was that there were two records of wheat acreage in the United States officially published (apart from the local State record): the census figures every tenth year, and the annual estimates of the Department of Agriculture. These two records often differed very considerably, and the Department's figures necessarily used in this paper were estimates on a percentage calculation rather than ascertained facts. Large differences between one year, and the succeeding frequently appeared in the annual figures. These might no doubt partly arise from widespread losses through insects, drought, frost, &c., which sometimes accounted for a loss of millions of acres in a single year. All comparisons between the returns of different countries, such as they had now before them, renewed the force of the suggestion that international unity of method and strict comparability of form was still urgently required in compiling agricultural statistics, and he hoped that ultimately some greater congruity might be secured as the result of the attention which the International Statistical Institute was turning to this matter.

Mr. Crawford, in reply, said that the yield per acre had been mentioned in the paper; it had been taken as about 11 bushels in the United States, 10 in India and Russia, and 30 in the United Kingdom. He had not entered into the question of the fluctuations in the exchange value of the various currencies, but he thought it would be difficult to demonstrate that the fall in exchange of the rupee had had any appreciable effect in stimulating the Indian grain trade. The figures of the cost of production had been a source of some difficulty so far as the United Kingdom was concerned, and he had given them for what they were worth. He had said nothing as to the consumption of wheat per head; he had merely given the actual figures, which showed that the supply available for consumption was larger. Probably the cost of production in India at the actual sterling value was lower than that which he had given, but he had converted the rupee into sterling at the exchange value in the year in which the official estimate was made. Mr. Freeman-Mitford's question, why the export of wheat continued while it was produced at a loss, was difficult to answer briefly; but he had already pointed out that in certain years, when the fall in price was very great, there had been a contraction in the wheat-acreage in two or three of the States which sent the largest quantity to our markets. Besides which he had not considered the further fall in price in 1894. He thought Mr. Sauerbeck, in speaking of Dakota, had not quite appreciated the fact that the United States supplied 40 per cent. of the total quantity available in the British market, and that in Dakota alone there were now 5,000,000 acres producing 65 to 70,000,000 bushels, which represented about 80 per cent. of the United States export in 1893-94. A circumstance deserving of consideration was that a larger supply was available in 1882-85 and 1889-93. He had not gone into the figures of the cost of production in the Argentine Republic, because that had been dealt with recently in the "Journal of the Board of Agriculture."

The Chairman proposed a very cordial vote of thanks to the author, which was carried unanimously, and the proceedings terminated.

MISCELLANEA.

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I.—*Commercial History and Review of* 1894.

THE following is taken from the supplement to the *Economist* of 16th February, 1895, in continuation of similar extracts for previous years:—

"Whether regard be had to its commercial, industrial, or financial aspects, 1894 must be characterised as a most disappointing year. At its commencement trade was showing some signs of recovering from the injuries it had sustained through the financial and commercial crises in Australia and the United States, and the temporary paralysis of important branches of our industry consequent upon the great coal strike in the Midlands. The hope then was that this improvement would continue and become more pronounced as time went on, and the outlook generally was regarded as more promising than it had been for a long time. Not that any great spurt in business was anticipated. As we pointed out at the time, circumstances did not warrant any such expectation. 'It appears to us,' we then wrote, 'that no rapid improvement ought to be looked for. Australia will not soon recover from the shock of last year's banking collapse, and business in and with the United States must continue for some time to be checked by uncertainty as to the form which the projected tariff legislation is likely to assume. Our investors, moreover, are not now, nor are they soon likely to be, in the mood to lend money to impecunious foreign Governments, and thus furnish them with the wherewithal to purchase our products. There, is, too, a certain unsettlement in the relations between capital and labour which is not unlikely to lead to further difficulties. And in these circumstances a slow and gradual development of trade seems the most we can expect. That, however, according to present indications, we may look for with some confidence.' But in penning this forecast, which by many was regarded as much too cautious, we did not reckon sufficiently with the perversity of the United States Legislature. For nearly eight months the two Houses deliberately dallied with the tariff question, and, deaf to all the appeals made to them, persisted in prolonging a state of suspense under which the trade of the country shrunk and shrivelled in all directions. And equal disregard of the public interest was displayed by them in regard to the currency. They would do nothing to aid in putting a stop to the drain of gold from the Treasury, which was sapping the basis of the paper currency, and giving rise to grave doubts as to the possibility of maintaining gold payments. To the tariff unsettlement, therefore, was added a monetary distrust, which not only arrested the investment of foreign money in the States, but caused withdrawals of foreign capital that had been previously placed there. This, of course, tended still further to cripple trade, and how seriously we were affected by the business prostration of so important a customer is shown by the fact that the value of our exports to the States in the first nine months of 1894 fell short of the total for the corresponding period of 1893 by fully 7,000,000*l.*, or more than 33 per cent. In Australia also things have not gone so well as was expected. It has been found that many of the hastily patched-up schemes for the reconstruction of the banks will not hold water. Not only has great difficulty been experienced in meeting the interest upon the extended deposits; but it has become evident that the repayment of these at their maturity is quite beyond the power of a number of the banks, who will consequently be under the necessity of seeking to effect some new arrangements with their creditors. Nearly all the Australian Governments, moreover, have to face more or less heavy deficits, while some of them are seeking to bolster up land values by vicious financial expedients. It is no wonder, therefore, that the stream of British capital, which formerly flowed so strongly into these colonies, has practically ceased, and that, forced to live upon their own resources, they have been compelled to economise and to limit, as far as possible, their purchases of our products. It has been very much the same with the Southern and Central American States, to whose wants British investors so freely ministered prior to 1890, and who have not yet shown that degree of recuperative power that was expected of them. And at home, although there was not in 1894 any labour conflict of such magnitude as the Midland strike, yet we had the Scotch coal miners abstaining from work for nearly four months, and more than the usual number of minor disputes, all of them involving some interruption of business.

"Notwithstanding, however, that for these and other reasons the hopes entertained at the beginning of the year were not realised, yet undoubtedly there was in 1894 some expansion of our trade, although that is so masked by a continuous fall in the prices of commodities, that it is necessary to go beneath the surface to find the evidence of it. Look, for instance, at the record of our foreign trade, which stands thus :—

	1894.	1893.	Increase or Decrease.	
	£	£	£	Per ct.
Imports	408,506,000	404,688,000	+ 3,818,000	+0·9
Exports of British and Irish produce	216,194,000	218,095,000	− 1,901,000	−0·9
Re-exports	57,966,000	59,043,000	− 1,077,000	−1·8
Total	682,666,000	681,826,000	+ 840,000	+0·12

Here there is apparent stagnation, an increase in the value of the imports being largely offset by a decrease in that of the exports. It is shown, however, by the analysis which appears in the Appendix, that if allowance be made for the drop in prices, the volume of our imports increased, as compared with 1893, by no less than 9·55 per cent., and that in the volume of our exports there was an increase of 3·35 per cent. And from the subjoined statement it will be seen that we have to go back to 1889 to find a year in which there was so large a growth in the bulk of our foreign trade :—

Volume of Our Foreign Trade. Increase or Decrease per Cent. as compared with previous Years.

	Imports Retained for Home Consumption.	Exports of Home Produce.	Imports and Exports.
	Per cnt.	Per cnt.	Per cnt.
1894	Increase 9·95	Increase 3·35	Increase 7·39
'93	Decrease 1·42	Decrease 2·10	Decrease 1·68
'92	Increase 0·33	,, 3·43	,, 1·17
'91	,, 4·34	,, 5·30	Increase 0·25
'90	Decrease 0·31	,, 0·51	Decrease 0·39
'89	Increase 11·25	Increase 3·71	Increase 8·08
'88	,, 3·42	,, 4·64	,, 3·94

"The increase in imports is mainly in articles of food and drink and in the raw materials for our textile and other industries; while amongst exports the expansion is chiefly in the shipments of coal, cotton goods, and machinery. It would be out of place, however, to go into details here. The broad fact is that in 1894 there was an enlargement of the volume of our foreign trade, which contrasts favourably with the slight shrinkage shown in the immediately preceding years.

"As to our home trade, it is impossible to speak with the same confidence, for in regard to it there are no such comprehensive statistics as those which lie to hand when dealing with our foreign commerce. Some guidance, however, is afforded by the returns of railway traffic, and taking the fifteen chief English companies, we get the following comparison with 1893 :—

	Passengers, Parcels, and Mails.		Merchandise.		Minerals.	
	1894.	1893.	1894.	1893.	1894.	1893.
	£	£	£	£	£	£
First six months	13,099,500	13,092,900	9,295,300	9,121,300	7,016,100	6,253,1
Second „	15,525,500	15,078,600	9,576,800	9,303,000	6,923,500	5,955,5
Total for year	28,625,000	28,171,500	18,872,100	18,424,300	13,939,600	12,208,6
Increase or decrease first six months....	+ 6,600 = 0·05 pr. cnt.		+ 174,000 = 1·9 per cnt.		+ 763,000 = 12·2 pr.	
Increase or decrease second six months	+ 446,900 = 3·0 „		+ 273,800 = 2·9 „		+ 968,000 = 16·3 „	
Total increase or decrease for year	+ 453,500 = 1·6 per cnt.		+ 447,800 = 2·4 per cnt.		+ 1,731,000 = 14·2 pr.	

"In seeking to arrive at the import of these figures, however, it must be remembered that the traffic of most of the English companies was largely curtailed during the latter half of 1893 by the great coal strike. And this affects the comparison with that year in two ways. For one thing, a good deal of the mineral traffic, which would in ordinary circumstances have passed over the lines in the latter part of 1893, was projected into the earlier months of 1894: and, further, the second half of 1894 compares with the strike period. It will be well, therefore, to carry the comparison a little further back, and that is done in the following statement:—

Railway Receipts.

	Passengers.	Merchandise.	Minerals.
	£	£	£
1894..................	28,625,000	18,872,100	13,939,600
'93..................	28,171,500	18,424,300	12,208,600
'92..................	28,085,700	18,869,000	13,579,500
'91..................	27,702,900	18,973,200	13,928,800

From this it will be seen that the growth of traffic in 1894 not only made good the falling off in 1893, but raised the total receipts above those of 1891. And this expansion is all the more indicative of an increase in the volume of trade, because between 1892 and 1894 there was a compulsory revision, involving some reduction of railway rates.

"Another indication of the condition of the home trade is afforded by the returns of shipping employed in the coasting trade, which give the following record for the past three years :—

Tonnage of Vessels Employed in the Coasting Trade.

	Entered.	Cleared.
	Tons.	Tons.
1894	30,922,500	29,845,700
'93	29,952,700	28,712,600
'92	28,806,300	27,592,200

"Too much importance must not be attached to these shipping returns, as there are no means of ascertaining to what extent the cargo-carrying capacity of the vessels entering and clearing was utilised. So far as they go, however, they support the other evidence that has been adduced of an expansion of the volume of last year's trade.

"Owing, however, to the fall in prices, the larger business we did in 1894 was conducted at a smaller margin of profit, and it is this which accounts for the feeling of depression and disappointment that prevailed throughout the year. According to our Index Number, the range of prices was lower by about 7½ per cent. at the end of the year than at the beginning, and that, as the following statement shows, is the heaviest fall that has been recorded for a good many years:—

	'Index Number,' representing the Combined Prices of Twenty-two Leading Commodities.
1st January, 1895	1923
„ July, '94	1974
„ January, '94	2082
„ July, '93	2105
„ January, '93	2121
„ July, '92	2081
„ January, '92	2133
„ July, '91	2199
„ January, '91	2224
„ July, '90	2259
„ January, '90	2236
„ July, '89	2161
„ January, '89	2187
„ „ '88	2230

"The Index Number which is regularly compiled by Mr. Sauerbeck from somewhat different data also registers a fall of about 7½ per cent. for the year. And the analysis of the Trade and Navigation Returns shows that, taking the whole of our foreign trade, the average prices of the year's imports were lower by 7·91 per cent. than in 1893, and the average prices of our exports 4·27 per cent. lower, this movement comparing with that of previous years as follows:—

Prices of Imports and Exports. Average Rise or Fall as compared with previous Years.

	Imports Retained for Home Consumption.	Exports of Home Produce.	Imports and Exports.
	Per cnt.	Per cnt.	Per cnt.
1894	− 7·91	− 4·27	− 6·54
'93	− 2·26	− 1·71	− 2·05
'92	− 4·17	− 4·91	− 4·46
'91	+ 0·50	− 0·93	− 0·08
'90	− 1·38	+ 6·41	+ 1·78
'89	+ 1·14	+ 2·32	+ 1·61
'88	+ 2·89	+ 0·90	+ 2·04

"The fall, moreover, besides being exceptionally heavy, was practically continuous throughout the whole of the year, and spread over nearly the whole range of commodities. To manufacturers and traders it was, therefore, peculiarly trying. It meant not only more and more work for no more or even less money; but when prices are persistently slipping away, the value of stocks deteriorates, and losses accrue. Even to manufacturers, of course, the fall is not an unmitigated evil when it brings, as it did last year, cheaper raw material as well as lower prices for the finished products. And in this connection it is worth noting that whereas, owing to the drop in prices, we paid last year fully 30,000,000*l.* less for our total imports than they would have cost us if the prices of the previous year had been maintained, we did not lose on our exports more than 9,600,000*l.* In our textile industries there was a gain of nearly 9,270,000*l.* to set against a loss of a little over 5,000,000*l.* in our exports of yarns and fabrics, owing to lower prices: while in our imports of articles of food and drink the drop in prices enabled us to effect a saving of about 15,000,000*l.* When all that has been said, however, the fact remains that a time of falling prices is, broadly speaking, a time of dwindling profits as well, and consequently a time when enterprise is checked, and the industrial machine works with a great amount of friction. Bi-metallists maintain that the remedy is to be found in the larger infusion of silver into the currencies of the world. But the recent experience of the United States is an example of the evils that inevitably result from currency mongering, and the assertion that a scarcity of gold is the cause of low prices does not comport with the fact that, although the supplies of gold have enormously increased of late years, and are still increasing, prices have been falling more sharply than before.

"To our working population the low range of prices is a great boon. It is argued, however, that even to them cheapness is not everything, and that if it involves a lessened demand for labour and diminished earnings, it is a very doubtful advantage. But whatever force there may be in this contention, it does not hold good of the past year. In that, as has been shown, there was an increase in the amount of work turned out, and consequently, *primâ facie*, somewhat better employment for labour. And this inference is supported by the statistics collected by the Labour Department of the Board of Trade, according to which the proportion of unemployed members in the trade societies from which returns are obtained amounted to 7·7 per cent. at the end of December last, as compared with 7·9 per cent. at the like date in 1893. It is borne out, moreover, by the returns of pauperism, which show the numbers in receipt of relief at the end of November in each of the past six years to have been:—

England and Wales.

End of November.	Total Number of Paupers.	Number in every 1,000 in Receipt of Relief.
1894	715,196	23·8
'93	726,951	24·5
'92	672,722	22·9
'91	660,823	22·7
'90	675,999	23·5
'89	702,396	24·7

"And further confirmation of it is given by the returns of our consumption of dutiable articles, which present the following figures:—

Quantities Retained for Home Consumption.

		1894.	1893.	1892.
Tea	lbs.	214,341,000	208,098.000	207,120,800
Cocoa	"	22,440,800	20,875,000	20,797,300
Coffee	cwts.	241,600	242,400	257,600
Tobacco	lbs.	65,551,300	63,556,000	63,722,200
Wines	galls.	13,845,600	14,164,200	14,624,600
Spirits, home	proof galls.	29,892,600	29,858,600	31,355,300
" foreign	galls.	7,642,000	7,869,800	8,147,200
Beer	barrels	31,745,500	31,594,400	31,508,700

Of tea and tobacco, which are such important items of working-class expenditure, the consumption increased very considerably, and although there was only a slight growth in the consumption of beer and British spirits, allowance must be made in their case for the restrictive effect of the additional duties imposed by the last budget.

"All these statistics, then, go to show that the condition of the masses of the people did not deteriorate during 1894, but rather slightly improved. Any reductions of their wages appear to have been more than compensated for by the reduction in the cost of living, and although there was a pinch in many directions, it was not they who felt it.

"Probably the industry that fared worst of all in 1894 was agriculture. It was a year of abundant crops, but these, owing to the excessive rainfall, were gathered in bad condition; and this, together with the magnitude of the foreign supplies, drove prices down to an almost unprecedentedly low level. Here is the record:—

Gazette Average Price of Wheat (per Imperial Quarter) in United Kingdom immediately after Harvest, 1888-94, *and Total Average Gazette Price of Calendar Years.*

Periods.	1894.		1893.		1892.		1891.		1890.		1889.		1888.	
	s.	*d.*	*s.*	*d*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
After harvest	24	1	25	11	29	4	40	11	35	9	31	2	36	4
Calendar year average	22	10	26	4	30	3	37	–	31	11	29	9	31	10

Comparative Gazette Prices of Grain.

Week.	Wheat.						Barley.						Oats.					
	1894.		1893.		1892.		1894.		1893.		1892.		1894.		1893.		1892.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Aug. 4	24	4	26	2	29	7	21	4	21	8	24	–	19	8	21	9	21	9
11	24	4	26	3	29	11	21	4	21	1	22	9	19	9	20	6	21	5
18	24	5	26	5	29	7	16	5	22	5	23	8	18	9	19	6	21	6
25	24	1	25	11	29	4	22	3	26	9	23	11	17	8	18	6	21	2
Sept. 1	22	7	25	5	29	1	24	1	26	9	24	2	17	1	18	7	20	3
8	21	7	25	7	29	5	24	11	27	2	27	8	16	6	17	4	20	2
15	20	5	26	–	29	1	23	9	27	8	27	11	15	9	17	6	19	4
22	19	8	26	9	28	4	23	5	27	10	28	3	15	2	17	9	18	10
29	18	9	27	6	27	10	23	5	28	4	27	11	14	3	17	11	18	–
Oct. 6	18	2	27	10	27	9	23	7	29	–	27	11	14	–	17	10	17	11
13	17	7	27	9	28	1	23	10	29	5	27	6	13	5	18	–	17	8
20	17	6	27	6	28	7	23	11	29	6	27	9	13	6	18	1	17	11
27	17	7	27	6	28	8	23	8	29	6	27	9	13	3	18	2	17	11
Nov. 3	18	–	27	4	28	9	23	8	29	5	27	7	13	6	18	2	17	9
10	18	4	27	4	28	3	23	–	29	3	27	4	13	7	18	1	18	–
17	19	1	27	4	27	11	22	7	29	2	26	7	13	10	18	2	18	–
24	19	11	27	1	27	5	22	4	28	9	26	–	14	3	18	3	17	7
Dec. 1	20	7	27	–	27	–	22	–	28	8	25	5	14	3	18	3	17	2
8	20	7	26	9	26	10	21	10	29	1	25	1	14	4	18	4	17	4
15	20	10	26	9	26	4	21	5	28	10	24	6	14	3	18	3	16	10
22	20	9	26	6	25	9	21	3	29	–	24	6	13	11	18	–	16	10
29	20	5	26	6	—		20	10	29	2	—		13	9	17	11	—	

Sir William Harcourt is being blamed for having added by his scheme of graduated death duties to the burdens of the landed proprietors at a time when agriculture is labouring under such extreme difficulties. So far as they are concerned, however, they have obtained some compensating relief by the reduction of their assessments to the income tax under Schedule A, while farmers, like all other classes, have benefited by the extension of the limits of exemption and abatement under Schedule D. The revised scheme of taxation, therefore, does not press upon the agricultural community at all so heavily as represented; but undoubtedly the assimilation of the death duties upon real and personal property raises the question whether the latter ought not to be made to contribute more largely than at present to the local taxation. And if, as many contend, agriculture might be assisted by the construction of light railways, the experiment ought to be made, provided it is done in a legitimate fashion, and there is a reasonable prospect of the lines paying their way. For there is no more reason why farmers should be provided with cheap transit at the cost of the State than any other portion of the industrial community; and if the lines are to be supported out of local rates, the position of the farmer is not likely to be improved. Possibly, however, on these and other kindred matters the Agricultural Commission, which is still pursuing its long-drawn-out inquiry, may be able to make valuable suggestions.

"The Indian Budget for the fiscal year 1894-95, as submitted to the Legislative Council by Mr. (now Sir James) Westland in February last, showed a deficit of Rx. 3,500,000, and amongst the measures proposed to make good the deficiency was the re-imposition of an *ad valorem* duty of 5 per cent. upon all imports. This, it was estimated, would have produced an additional revenue of about Rx. 2,900,000. But the Home Government, while agreeing to the imposition of the duty upon all other commodities, insisted upon cotton goods being exempted from it. To this the Indian authorities were compelled to assent, against their will, and as with cotton goods untaxed the yield of the duty was estimated at only Rx. 1,140,000, they took steps to cover the remainder of the deficit by suspending the famine grant, curtailing the expenditure upon public works, and exacting contributions from the Provincial Governments. These measures, however, did not quite suffice to cover the gap between the revenue and expenditure, and as afterwards the expenditure of the year was largely increased by a fall in exchange below the rate estimated for, it became evident that if the exemption of cotton goods was maintained, there would inevitably be a heavy deficit at the end of the fiscal year. The Home Government ultimately, at the urgent request of the Indian officials, consented to cottons being brought within the operation of the import duty, provided a countervailing excise of like amount were imposed upon Indian-made yarns of counts higher than 20's. And subject to this condition the import duty has been imposed. But against the compromise both Lancashire and India strongly protest. The Indian manufacturers contend that there is no competition between them and British producers in counts under 24's; that for lower counts, therefore, the excise duty is not required; and that if it is levied only on counts higher than 24's, it will, while hampering them, produce only an insignificant amount of revenue. On the other hand, Lancashire asserts that even with the countervailing excise, the import duty will be to some extent protective in its operation; that it will, at all events, tend to narrow the Indian market for British cotton goods; and that as India owes so much to this country, she should not be permitted to take action which will injure one of the most important of our industries. But the demand that Indian finance must be governed by consideration for the interests of Lancashire is obviously one that cannot be justified; and however much it may be regretted that India has been compelled to have recourse to so undesirable an expedient as the imposition of import duties, her Government have, by the levying of the countervailing excise, done as much as possible to deprive them, so far as cotton goods are concerned, of any protective character. The controversy has given rise to a great amount of ill-feeling both in India and here, and that, as well as the financial troubles out of which it has grown, must be looked upon as constituting one of the most regrettable incidents of the past year.

"So much for the business record of the year that has gone. As to the prospects of the current year, it behoves one, after the disappointments of the past, to speak with diffidence. There are, however, some encouraging features. One is that there was a considerable change for the better during the last quarter of 1894, there being then a distinct increase in our exports, and also in the amounts cleared at the London Bankers' Clearing House. This was, of course, in some measure due to the fixing of the United States tariff, and also to the fact that comparison was being made with the most depressed period of 1893. But the improvement has continued during the current year, and is, therefore, a hopeful sign. Then investors have latterly been showing rather more confidence, and will, probably, be rather more disposed to furnish capital for new enterprises than they have been for some years past. Further, the large increase in the world's gold production is a factor of very considerable importance. Even if it does no more than dissipate the idea which bi-metallists have done so much to propagate, of a gold scarcity that must militate against any development of trade, it will do good. And its influence goes beyond this. It adds to the purchasing power of the world, and affords a basis upon which credit may safely expand when confidence revives. The war in the East, moreover, although it has a disturbing effect at present, must, in all probability, end in the opening up of China, with its immense trade potentialities, to foreign commerce. Altogether, therefore, there seems reason for hoping that when a retrospect of 1895 comes to be taken it will prove more favourable than is that of 1894.

"Seldom has the money market shown more complete stagnation than it did in 1894. The year opened with the bank rate at 3 per cent. A reduction to 2½ per cent. was made at the end of January, and three weeks later a 2 per cent. minimum was established, which remained in force throughout all the rest of the year. In spite of this low rate, however, gold continued to flow into the Bank in a continuous stream until the middle of September, by which time the stock of bullion had been increased to the unprecedented total of nearly 39,000,000*l.*, and the reserve had reached the record figure of 31,300,000*l.* For the remainder of the year the bullion current set in the opposite direction, continuous withdrawals being made for the continent, and at the close of December the stock of bullion stood at about 33,000,000*l.*, and the reserve at 24,000,000*l.* This reduction, however, had no effect upon rates, since it still left the bank in a position of most exceptional strength, while the market was in a chronic state of over supply. In the first half of the year the average market rate for three months' bills was 1*l.* 6*s.* 6*d.* per cent., as compared with 1*l.* 18*s.* per cent. in the corresponding period of 1893; while the difference between the average discount rate and the average allowance on deposits was only 5*s.*, as compared with 9*s.* 6*d.* Their margin of profit having been thus greatly curtailed, the metropolitan banks decided at the beginning of August to depart from the rule under which the minimum rate allowed by them on deposits was fixed at 1 per cent., and to reduce the rate to ½ per cent. In spite of this, however, owing to the continued fall in the value of money, the profit margin was even smaller in the second half of the year than in the first, the difference between the average deposit allowance and the discount rate working out at only 2*s.* per cent. To the metropolitan banks, therefore, the year was a most exceptionally unprofitable one, and of this their shareholders were made aware by a reduction of their dividends. The provincial banks, however, which are not subject to such keen competition as the London institutions, fared better, and were, as a rule, able to maintain their dividends.

"The following is our customary comparative table of rates:—

	1894.	1893.	1892.	1891.	1890.	1889.	1888.	1887.	1886.	1885.
nge bank rate ...	two	twelve	four	twelve	eleven	eight	nine	seven	seven	seven
	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.	Per cnt.
ghest „	3	5	3½	5	6	6	5	5	5	5
west „	2	2½	2	2½	3	2½	2	2	2	2
erage „	2/2/1	3/1/4	2/9/11	3/5/11	4/10/4	3/14/10	3/6/3	3/6/-	3/-/4	2/16/9
erage market te best three nths' bills	19/3	2/2/-	1/9/5	2/10/-	3/13/11	2/15/6	2/7/-	2/7/3	2/1/-	2/-/9
rket below bank..	1/2/10	19/4	1/-/6	15/11	16/5	19/4	19/3	18/9	19/4	16/-

European Rates of Discount per Cent. per Annum, 1894.

Cities.	Beginning of Months of 1894.												
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Avge.
London.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Bank rate	3	2½	2	2	2	2	2	2	2	2	2	2	2·11
Open market	1⅜	2⅛	1¼	1⅛	1¼	¾	⅝	⅝	9/16	9/16	11/16	⅞	0·97
Paris.													
Bank rate	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2·50
Open market	2⅜	2⅜	2⅛	2 3/16	1	1 5/16	2	1⅝	⅞	1⅝	2 1/16	1 13/16	1·77
Vienna.													
Bank rate	5	4½	4	4	4	4	4	4	4	4	4	4	4·08
Open market	4⅜	3¾	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3½	3⅛	3⅞	3¾	3·56
Berlin.													
Bank rate	4	4	3	3	3	3	3	3	3	3	3	3	3·12
Open market	3	2	1⅝	1⅝	1¾	1⅞	1⅝	1½	1½	1⅝	1½	1⅜	1·73
Frankfort.													
Bank rate	5	4	3	3	3	3	3	3	3	3	3	3	3·11
Open market	3	2⅛	1½	2	1⅜	1¾	1⅞	1½	1½	2⅛	1⅝	1⅜	1·80
Amsterdam.													
Bank rate ..	3½	3	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2·58
Open market	3	2⅛	1½	1½	1¾	1⅝	1¾	1½	1¼	1¾	2⅛	1¾	1·77
Brussels.													
Bank rate	3	3	3	3	3	3	3	3	3	3	3	3	3·00
Open market	2⅝	2⅝	2¼	2	1⅞	1¾	1¾	2	1⅝	1¾	1¾	1¾	1·91
Hamburg.													
Bank rate	5	4	3	3	3	3	3	3	3	3	3	3	3·11
Open market	3¼	2	1⅜	1⅞	1⅛	1⅝	1¾	1½	1⅜	2⅛	1⅛	1⅜	1·71
St. Petersburg													
Bank rate	6	5½	5½	5½	5½	5½	5½	5½	6	6	6	6	5·70
Open market	5½	5	5	5	5	5	5	5	5	6	5½	5½	5·16

"The movements in the silver market during 1894 are thus reported upon by Messrs. Pixley and Abell:—

"Considerable steadiness marked the first month of the year. It had been expected daily that an Indian import duty would be levied on silver, but as the time passed without any announcement, large shipments were made in the hope that the silver would reach India before any such change could take place. A semi-official announcement in London, that no duty would at present be imposed, helped to strengthen the market. Shortly afterwards rumours were rife that this would not be the case, and the effect of these was heightened by the India Council making it known that in future the weekly sales would be at market rate. Indian rates declined, and silver fell 1¼*d.* in a few days. Some recovery then ensued, but the old level was never regained. In the middle of February American sellers pressed the market, and this, in conjunction with reports that the Indian duty would be levied forthwith, caused a severe fall, and 27*d.* was reached on the 3rd of March. The long expected 5 per cent. duty on all silver entering India was then announced, and as its action was immediate, several heavy shipments that were on their way were taxed without notice having been given to the shippers. At these cheap rates there was considerable demand for China, and an advance to over 29*d.* was recorded. Re-sales of silver bought for China, and realisations from America, then caused the market to recede rapidly, but further decline was checked by several heavy continental orders, which clashed with a special shipment to Guatemala. From mid April to August but small changes occurred, any slight advance being followed by American sales, and consequent relapse. A strong demand for China then caused an advance, and the market improved to 30¼*d.* on the 22nd, and on the 27th to 30½*d.* During the few succeeding days this rise was lost, but the market continued very steady with small fluctuations round about 29¼*d.* until the middle of November, when inquiry for China and the East entirely ceased, and was followed by considerable sales in London of silver which had been bought for remittance thence. Purchases of wire transfers on Japan were simultaneously made to cover. The above sales, together with more from New York, flattened the market considerably, and by the middle of December it became evident that there was little likelihood of immediate recovery. Towards the close of the year the sales from America continued at constantly reduced rates.

Monthly Fluctuations in Price of Bar Silver.

	1894.		1893.		1892.		1891.		1890.	
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
January	31¾	30½	$38\frac{9}{16}$	38⅛	43¾	41¾	48¾	46⅞	44⅞	44⅛
February........	$30\frac{11}{16}$	27½	38½	38¼	$41\frac{15}{16}$	41⅛	46¾	44½	44⅝	$43\frac{11}{16}$
March	27⅞	27	38⅜	$37\frac{9}{16}$	41⅝	39	$45\frac{5}{16}$	44⅝	44⅜	43¾
April	29⅜	29⅛	$38\frac{5}{16}$	38	40⅛	39¼	45	43⅞	48	43⅞
May	29¼	$28\frac{1}{16}$	$38\frac{9}{16}$	37⅝	40⅜	$39\frac{11}{16}$	45⅛	44¼	47⅛	46
June	$28\frac{15}{16}$	$28\frac{5}{16}$	38¾	30½	41⅛	$40\frac{1}{16}$	46	44¼	49	46¼
July..............	$28\frac{15}{16}$	28⅞	34¾	32⅛	40¼	$39\frac{1}{16}$	46⅜	45⅝	50⅞	$47\frac{9}{16}$
August	30½	$28\frac{11}{16}$	34⅞	$32\frac{11}{16}$	$39\frac{1}{16}$	37⅞	46⅛	$45\frac{1}{16}$	54½	50¾
September	30¼	$29\frac{3}{16}$	34½	33⅞	$38\frac{5}{16}$	38⅛	$45\frac{5}{16}$	44¾	54⅝	50
October	$29\frac{9}{16}$	$28\frac{15}{16}$	34⅛	31½	39⅝	38⅛	45	$44\frac{1}{16}$	51½	48⅛
November	$29\frac{5}{16}$	28⅜	32¾	31½	39¼	38¾	$44\frac{1}{16}$	43½	48¾	45
December	28½	$27\frac{3}{16}$	$32\frac{5}{16}$	31¾	$39\frac{3}{16}$	$37\frac{15}{16}$	44¼	43½	49½	47¼
Yearly avge.	$28\frac{15}{16}$		35⅝		$39\frac{13}{16}$		$45\frac{1}{16}$		$47\frac{11}{16}$	
Highest price	31¾		38¾		43¾		48¾		54⅝	
Lowest "	27		30½		$37\frac{15}{16}$		43½		$43\frac{11}{16}$	

"The principal features of Stock Exchange business during 1894 were the great advance in consols and what are known as 'gilt-edged' securities, and in the closing months of the year the activity in the South African mining market, which resulted in an extraordinary rise of prices in that department. A movement similar in character was thus recorded in two widely differing classes of securities, the one representing the extreme of cautious and safe investment, and the other the opposite extremity of speculative enterprise. From the general tendency in other markets and the decline shown in the amount of bankers' clearings on Stock-Exchange pay-days, it might have been supposed that, except as regards the classes of securities referred to above, prices had either declined, or had been barely maintained. On comparison with the end of 1893, however, it was found that, with comparatively few exceptions, there was in each of the more important groups of Stock Exchange securities a substantial appreciation in market value. The extent to which the securities grouped under the several divisions of the London list shared in the upward movement will be readily seen by a reference to the following statement, which is based principally on the excellent table compiled by the *Bankers' Magazine*:—

Table showing Values of Securities and their Aggregate Variation during the past Year.

[000's omitted.]

	Department, containing.	Nominal Amount (Par Value).	Market Values end of		Increase or Decrease.	
			1894.	1893.		
		£	£	£	£	Per cnt.
15	British and Indian funds	800,194,	829,345,	803,034,	+ 26,311,	3·3
8	Corporation (U.K.) stocks ...	36,378,	42,427,	40,650,	+ 1,777,	4·4
11	Colonial Government stocks....	49,416,	52,517,	50,340,	+ 2,177,	4·3
4	Ditto inscribed ditto. ..	21,375,	22,468,	22,228,	+ 240,	1·1
30	Foreign Government ditto....	907,878,	781,480,	743,734,	+ 37,746,	5·1
19	British Railway Ordinary........	201,166,	276,882,	259,260,	+ 17,622,	6·8
14	Ditto Debenture Ordinary	114,486,	172,413,	161,063,	+ 11,350,	5·0
12	Ditto Preference Ordinary....	105,616,	157,158,	143,857,	+ 13,301,	9·2
8	Indian Railway Ordinary	51,010,	77,902,	74,232,	+ 3,670,	4·9
8	Railways in British possessions Ordinary	56,014,	20,007,	23,302,	− 3,295,	14·1
11	American railway shares	93,057,	57,520,	59,317,	− 1,797,	3·03
11	Ditto bonds (gold)	51,532,	37,231,	38,768,	− 1,537,	3·97
5	Ditto bonds (sterling)...........	10,742,	12,666,	12,106,	+ 560,	4·6
10	Foreign railways	16,116,	13,038,	12,068,	+ 970,	8·0
6	Ditto obligations	83,261,	57,492,	53,047,	+ 4,445,	8·4
33	Bank shares	37,419,	71,218,	69,768,	+ 1,450,	2·1
8	Corporation stocks (colonial and foreign)	7,038,	7,586,	7,576,	+ 10,	0·1
11	Financial, land	7,337,	6,051,	6,159,	− 108,	1·7
4	Gas	10,842,	26,930,	24,596,	+ 2,343,	9·5
18	Insurance	4,258,	24,740,	22,726,	+ 2,014,	8·8
8	Coal, iron, and steel	6,758,	5,694,	5,451,	+ 243,	4·4
6	Canal and dock	20,716,	56,922,	50,598,	+ 6,324,	12·5
8	Breweries	4,533,	9,191,	7,865,	+ 1,336,	16·8
14	Commercial, industrial, &c.	3,714,	5,156,	4,907,	+ 249,	5·1
13	Mines (foreign)	10,690,	9,573,	10,103,	− 530,	5·2
6	Shipping	5,316,	5,544,	5,483,	+ 61,	1·1
*5	Tea (Indian)	693,	....*	....*	....	....
12	Telegraph and telephone	17,557,	18,669,	18,218,	+ 451,	2·5
11	Tram and omnibus	4,066,	4,198,	4,156,	+ 42,	1·0
10	Waterworks	8,553,	19,851,	18,203,	+ 1,648,	9·05
334	Totals	2,747,038,	2,881,978,	2,752,815,	+ 129,163,	4·7

* Different set of securities now taken.

In the sum of 129,163,000*l.* here shown as the appreciation of market value during the year, no account is taken of the rise in Kaffirs, which made such rapid strides towards the end of the year, and which would, of course, if included, add considerably to the total increase.

"The rise in the price of British Government and other first-class stocks was gradual, but steady and persistent throughout the year. It was due to well-known causes, some of which are permanent in their operation, such as the purchases on account of the Sinking Fund and the investment of Savings Bank deposits, while others were merely temporary, and arose from the special circumstances of the period, such as the cheapness of money, and distrust in regard to more speculative securities. In this section the advance of British Corporation stocks in public favour is a prominent feature. Foreign Government securities owed much of the improvement in their position to the activity which prevailed on the foreign bourses, and in some cases it is difficult to see that the advance was justified by any real improvement in the financial status of the countries whose bonds shared in it. Thus it is difficult to perceive any solid ground for the advance of about 10 per cent. recorded in Spanish bonds, since the Government of that country cannot pay its way, even though constant recourse has been had to the Bank of Spain for assistance. The statesman, moreover, who attempted legitimately to rehabilitate the country's finance by means of a rigid and impartial collection of the taxes, was driven from power by the storm of indignation excited among the classes who had hitherto escaped bearing their fair share of the fiscal burden. Italian stock also, which is another favourite medium of speculation in Paris and Berlin, gained some 6 per cent. on the year, and this, in spite of the fact that by means of taxing the coupons the interest was reduced to 4 per cent. from the beginning of the present year, instead of the 5 per cent. which is the nominal rate. Italy is, no doubt, making strenuous efforts to make ends meet, but the obvious difficulties she has to encounter in reaching that consummation render the rise in market value of her securities somewhat surprising. South American securities derived their principal support from the operations leading up to the satisfactory conclusion of the Baring liquidation, but as regards Argentina, subsequent events reduced the stocks to much the same level of market value as they occupied at the end of the previous year.

"The prices of Home railway stocks at the end of 1894 compared favourably with those of the corresponding period of 1893, owing to the depression caused by the coal strike. The highest prices were recorded towards the end of the year, and the advance shown on comparison extended to all classes of stocks—debenture, preference, and ordinary.

"The most unsatisfactory portion of the year's Stock Exchange business was in connection with Canadian and American railroads. The former suffered from some depressing circumstances in common with the latter, but were free from troubles connected with defects in the laws of the United States, by which the railways on the

Yankee side of the frontier are still adversely affected. In neither case are the present prospects of improvement very hopeful. Foreign railways showed, as a rule, a good advance, but the average was pulled down somewhat by a heavy fall in Mexican rails, one or two Brazilian lines, and Costa Rica. The stocks or shares of gas, water, docks, insurance, and brewery companies were in great request, these groups showing an increase in market value ranging from 9 to 16 per cent. The only declines among these miscellaneous issues were in land companies, mainly due to the fall of land values in Australia, and in shipping companies, who found it difficult to carry on business at a profit.

"From the general course of Stock Exchange business, and the rise in prices which took place, the conclusion may, we think, safely be drawn that there was a greater amount of confidence exhibited in the market for investments than has been observable at any time since the Baring collapse at the end of 1890. This partial removal of distrust was manifested in a considerable broadening out of the field of investment, and an increased readiness to absorb new issues of capital of a sound character.

"During the latter part of 1894 investors showed some signs of reviving confidence, and as promoters and others were quick to take advantage of this, the applications for new capital in the latter part of the year were on a fairly large scale. Here is the record, quarter by quarter, for the past five years:—

New Capital Applications.

	1894.	1893.	1892.	1891.	1890.
	£	£	£	£	£
1st quarter	11,358,000	7,770,000	30,943,000	30,549,000	30,243,000
2nd "	19,719,000	18,179,000	28,133,000	24,808,000	59,510,000
3rd "	18,140,000	8,951,000	7,716,000	16,936,000	39,103,000
4th "	42,618,000	14,241,000	14,345,000	32,302,000	13,709,000
	91,835,000	49,141,000	81,137,000	104,595,000	142,565,000

"Roughly classifying the applications in 1894, we have the following statement:—

	£
Foreign Government and loans	22,692,000
Colonial and Indian Government loans	13,129,000
British corporation loans	8,809,000
Colonial corporation loans	2,041,000
British railways	6,384,000
Foreign "	9,411,000
Breweries	4,297,000
Mining and land companies	5,018,000
Shipping companies	1,093,000
Gas, electric, and water companies	1,622,000
Miscellaneous companies	17,338,000
	91,835,000

Amongst foreign Government loans the chief item is an issue of

15,100,000*l.* Russian 3½ per cents., of which the bulk was taken by France and Germany. Norway, Turkey, China, and Mexico were the other chief borrowers, the two former combining a conversion operation with the raising of fresh money, while Denmark also appealed to this and continental markets for a loan of 760,000*l.* Amongst the applications by colonial Governments are included the 2,025,000*l.* raised for the Bank of New Zealand under the guarantee of the colony. Towards the latter end of May the Indian Government found it necessary to raise a loan of 6,000,000*l.* for the purpose of funding Treasury bills and providing for current expenditure. Canada was very successful in placing a new 3 per cent. loan for 2,137,000*l.*, and Ceylon, Western Australia, the Cape, Newfoundland, the Province of Quebec, as well as two or three of the small Crown colonies figured as borrowers during the year. In 1894, as in 1893, home corporations were free borrowers, and their numerous applications were very readily responded to. The total of the issues of this class amount to close upon 9,000,000*l.*, as compared with about 6,000,000*l.* in 1893. Of the 2,000,000*l* raised by colonial corporations, the largest portion was applied for by Canadian municipalities. Home railways, it will be seen, figure for a total of 6,384,000*l.*, while of the 9,400,000*l.* set against foreign railways, close upon 5,000,000*l.* were raised for Turkish enterprises, nearly 3,000,000*l.* by railways in the United States, and 935,000*l.* for the development of the Transvaal State's system. The 4,000,000*l.* raised by brewery companies was largely in the shape of debentures by established concerns, and, passing to the 5,018,000*l.* applied for by mining companies, it has to be noted that this is exclusive of vendors' shares, which constitute a large portion of their capitalisation. The bulk of this money was applied for by West Australian mining concerns. Nearly one-half of the 17,338,000*l.* classed as 'miscellaneous' was applied for during the last quarter of the year, the two largest individual items in the total being the 1,500,000*l.*, raised by the Baring Trust, and an issue of 1,156,000*l.* of debenture stock by the Australian Estates and Mortgage Company.

"The following is a comparison of the capital applications and the calls made in the ten years ending 1894:—

	Capital Created and Issued.			Actual Money Calls.		
	In England.	England and Elsewhere.	Total.	In England.	England and Elsewhere.	Total.
	£	£	£	£	£	£
In 1894....	61,191,000	30,644,000	91,835,000	62,666,000	11,556,000	74,222,000
" '93....	39,181,000	9,959,750	49,141,000	33,751,000	8,202,000	41,953,000
" '92....	53,197,000	27,940,000	81,137,000	47,212,000	12,045,000	59,262,000
" '91....	80,239,000	24,356,000	104,595,000	66,810,000	9,234,000	76,044,000
" '90 ..	125,898,000	16,667,000	142,565,000	120,717,000	20,290,000	141,007,000
" '89....	178,930,000	28,107,000	207,037,000	152,012,000	15,791,000	167,804,000
" '88....	140,758,000	19,497,000	160,255,000	125,864,000	11,388,000	137,252,000
" '87....	96,770,000	14,439,000	111,209,000	84,161,000	9,507,000	93,668,000
" '86....	93,946,000	7,927,000	101,873,000	70,342,000	17,134,000	87,476,000
" '85....	55,558,000	22,414,000	77,972,000	62,824,000	15,051,000	77,875,000

APPENDIX: *Our Foreign Trade of* 1894 *compared with that of* 1893.

For a number of years past it has been our practice to analyse the annual Trade and Navigation Returns, so as to show to what extent the recorded movements in values have been due to variations in the volume of the year's trade, and how far to alterations in prices. The details of this analysis for the year 1894 will be found in the numbers of the *Economist* of the 19th and 26th Jan., and we now, as usual, bring together the main figures, in order that the broad results may be more clearly indicated:—

I. *Imports.*

	1894.		1893.
	Value in Trade and Navigation Returns.	Value Calculated at Prices of 1893.	Value in Trade and Navigation Returns.
	£	£	£
Living animals	9,099,000	9,452,000	6,352,000
Articles of food and drink	163,795,000	181,514,000	169,444,000
Tobacco	3,513,000	3,690,000	3,566,000
Metals	19,063,000	20,788,000	20,629,000
Chemicals, dye-stuffs, and tanning materials	6,318,000	6,647,000	6,354,000
Oils	7,506,000	8,249,000	7,410,000
Raw materials for textile manufactures	70,623,000	77,240,000	67,976,000
Raw materials for sundry industries	43,091,000	44,071,000	40,977,000
Manufactured articles	68,959,000	70,862,000	65,906,000
Miscellaneous ,,	15,730,000	17,275,000	15,835,000
Parcel post	809,000	890,000	619,000
Total imports	408,506,000	440,678,040	405,068,000
Deduct re-exports	57,966,000	60,125,000	58,936,000
Net imports	350,540,000	380,553,000	346,132,000

II. *Exports of British Produce.*

	1894.		1893.
	Value in Trade and Navigation Returns.	Value Calculated at Prices of 1893.	Value in Trade and Navigation Returns.
	£	£	£
Living animals	665,000	971,000	630,000
Articles of food and drink	10,698,000	11,031,000	10,603,000
Raw materials	19,816,000	18,729,000	17,169,000
Yarn of all kinds	16,937,000	18,060,000	16,776,000
Textile fabrics of all kinds	79,153,000	83,706,000	79,832,000
Metals and machinery	42.311,000	44,451,000	44,837,000
Apparel and articles of personal use	8,741,000	9,122,000	9,564,000
Chemicals and chemical and medicinal preparations	8,496,000	9,062,000	8,695,000
All other articles	28,268,000	29,529,000	29,348,000
Parcel post	1,109,000	1,159,000	1,042,000
Total	216,194,000	225,820,000	218,496,000

"Dealing first with the volume of our trade, it is shown in Table I that in 1893 the total value of the imports retained for home consumption was 346,132,000*l.*, and that if we had paid for our net imports of last year the same average prices as in 1893, they would have cost us 380,553,000*l.* It follows, therefore, that there was last year an increase in the quantity of our net imports equal to the difference between 346,132,000*l.* and 380,553,000*l.*, or 9·95 per cent. And the volume of our exports also increased, although not to the same extent. In 1893 we exported British products to the value of 218,496,000*l.*, while our exports in 1894, if we had obtained for them the same prices as in 1893, would have realised 225,820,000*l.*; and the difference between these two amounts, which is 7,324,000*l.*, or 3.35 per cent., is the measure of the increase in the quantity of our shipment in 1894. Taking imports and exports together, the volume of our foreign trade last year (exclusive of re-exports) shows, as compared with 1893, an increase of 7·39 per cent., the figures being:—

	£
Actual value of net imports and of exports of British products in 1893	564,628,000
Value of net imports and of exports of British products in 1894, calculated at the prices of 1893	606,373,000
Increase in 1894, due to larger quantities	41,745,000 =7·39 pr. ct.

"Next as to prices. The actual cost of our imports for home consumption last year was 350,540,000*l.*, but if we had had to pay for them the same price as in 1893, they would have cost us 380,553,000*l.* Thus owing to lower prices, we effected a saving of 30,013,000*l.*, or 7·91 per cent., which means, of course, that, on the average, the prices of the commodities imported were 7·91 per cent. lower in 1894 than in 1893. As regards the exports of British products, the total value of our shipments last year is returned at 216,194,000*l.*, whereas if we had got for them the same average prices as in 1893, they would have realised 225,820,000*l.* There was thus a falling off in aggregate value due to lower prices of 9,626,000*l.*, or 4·27 per cent. In imports and exports combined the decline in value due to lower prices was 39,639,000*l.*, or 6·54 per cent., the calculation working out thus:—

	£
Value of net imports and of exports of British products, calculated at prices of 1893	606,373,000
Actual value in 1894	566,734,000
	39,639,000 = 6·54 per cent.

"Summing up, then, we find that whereas the fall in price enabled us to save last year 30,013,000*l.* upon our imports, it did not reduce the value of our exports by more than 9,626,000*l.*, and this shows how far astray are those currency-mongers who habitually speak of the fall in prices as an unmitigated national evil."

II.—*Prices of Commodities in 1894.* By A. SAUERBECK, ESQ.

THE following table shows the course of prices of forty-five commodities during the last seventeen years as compared with the standard period of eleven years, 1867-77, which in the aggregate is equivalent to the average of the twenty-five years 1853-77 (see the Society's *Journal*, 1886, pp. 592 and 648, and 1893, pp. 220 and 247):—

Summary of Index Numbers. Groups of Articles, 1867-77 = 100.

	Vegetable Food (Corn, &c.).	Animal Food (Meat, &c.).	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.*	Wheat Harvest.†	Average Price of Consols.‡	Average Bank of England Rate.‡
1878....	95	101	90	96	74	78	88	81	**87**	86·4	108	95 3/16	3¾
'79....	87	94	87	90	73	74	85	78	**83**	84·2	64	97½	2⅜
'80....	89	101	88	94	79	81	89	84	**88**	85·9	93	98⅜	2¾
'81....	84	101	84	91	77	77	86	80	**85**	85·0	97	100	3½
'82....	84	104	76	89	79	73	85	80	**84**	84·9	100	100½	4⅛
1883....	82	103	77	89	76	70	84	77	**82**	83·1	93	101 3/16	3 9/16
'84....	71	97	63	79	68	68	81	73	**76**	83·3	103	101	3
'85....	68	88	63	74	66	65	76	70	**72**	79·9	108	99¼	3
'86....	65	87	60	72	67	63	69	67	**69**	74·6	93	100¾	3
'87....	64	79	67	70	69	65	67	67	**68**	73·3	110	101⅜	3 5/16
1888....	67	82	65	72	78	64	67	69	**70**	70·4	96	101	3 5/16
'89....	65	86	75	75	75	70	68	70	**72**	70·2	103	98	3 9/16
'90....	65	82	70	73	80	66	69	71	**72**	78·4	106	96⅛	4 8/16
'91....	75	81	71	77	76	59	69	68	**72**	74·1	108	95⅜	3 5/16
'92....	65	84	69	73	71	57	67	65	**68**	65·4	91	96¾	2 8/16
1893....	59	85	75	72	68	59	68	65	**68**	58·6	90	98½	3 1/16
'94....	55	80	65	66	64	53	64	60	**63**	47·6	106	101	2 1/16
Avge. 1885-94	65	83	68	72	71	62	68	67	**69**	69·2	101	99	3⅛
'78-87	79	95	76	84	73	71	81	76	**79**	82·1	97	99⅛	3 5/16

* Silver 60·84 per oz. = 100.

† Wheat harvest in the United Kingdom, 1878-83, 28 bushels per acre = 100, from 1884 29 bushels = 100.

‡ Consols and bank rate actual figures, not index numbers; consols 2¾ per cent. from 1889.

The index number for all commodities was 63, against 68 in 1893, and was therefore 7½ per cent. below the preceding year, 9 per cent. below the average of the preceding ten years, 20 per cent. below the ten years 1878-87, and 37 per cent. below the standard period 1867-77. The decline during the past year extended to all groups of commodities, and in no case was it less than 6 per cent. A number of articles showed records of lowest prices during the century, thus wheat and flour, oats, rice, sugar, lead, cotton, jute, flax, Manilla hemp, merino wool, silk and soda, in fact 16 out of 45 descriptions, while some others, such as tea, copper, and petroleum were on the average of the year as low or lower than in any preceding year.

As will be seen from the monthly figures given later on, the fall was practically uninterrupted, and amounted to fully 10 per cent. from beginning to end. Vegetable food (corn, &c.) declined on the average 9 per cent. since December, 1893; wheat, barley, and oats fell considerably, English wheat touching 17*s.* 6*d.* and oats 13*s.* 3*d.* in October, these very low rates being partly due to the damp condition of the crop. Cargoes of wheat afloat, particularly River Plate, were sold at that time under 20*s.*, but good dry North American or Indian wheat on spot was probably not obtainable under 21*s.* Prices for English and foreign wheat improved somewhat towards the end of the year. Potatoes and American maize were cheap in the first half of the year, and dearer in the second half owing to deficient crops. Rice sold on a very low level. In the case of animal food, beef and inferior mutton were on the whole somewhat lower, and prime mutton a little higher, while pork and butter ruled distinctly cheaper, the average price of butter having been the lowest since 1852. Sugar suffered a decline of 30 per cent. in view of an enormous crop; the better kinds of coffee, which were scarce, sold fairly well, but the lower Brazil sorts fell about 20 per cent.; tea was cheap, and the average import value was lower than ever, but there was some improvement for common grades in the second half of the year. In the case of minerals the decline during the year amounted to 14 per cent.; iron did not fluctuate much but receded slightly, copper and lead were very low and tin fell sharply—about 18 per cent.—owing to large supplies. Best coals in the London market declined from 24*s.* to 16*s.*, the opening price having been very high in consequence of the strike, while the closing price may have been influenced by the mild weather in December; but it is worth mentioning that during the three winter months November, December and January the price did not rise above 16*s.*, which has not been the case for over forty years; only in February during the prolonged frost it went to 17*s.* 6*d.*, but fell to 15*s.* 6*d.* after the thaw. The most remarkable decline took place for textiles, where it reached 20 per cent. within the year. Cotton declined gradually in expectation of a very large American crop, and touched the lowest point ever known in November, when middling American was quoted $2\frac{31}{32}$*d.*; jute declined throughout the year, silk was very depressed, flax maintained a fair level until summer, but fell sharply afterwards, in some cases up to 35 per cent. from the beginning of the year. The decline in the last quarter extended also to hemp and wool, in the case of the latter partly owing to large accumulations of stocks on the continent. Sundry materials were all low, but a distinct fall is only to be recorded in the case of tallow, indigo, and soda.

The average price of silver was $28\frac{15}{16}$*d.*, against $35\frac{5}{8}$*d.* in the preceding year. It stood at $31\frac{3}{4}$*d.* at the end of 1893, and commenced to fall when the Indian Secretary abolished the limit for Council drafts, touching the lowest price on the 3rd March, viz., 27*d.* per oz. spot ($26\frac{3}{4}$*d.* for futures). It improved at the end of March, ruled between 28*d.* and 29*d.* during the next four months, and rose to 30½*d.* towards the end of August. During the rest of the year it declined gradually, and was worth 27¼*d.* at the end of December (index number 44·8), equal to a ratio of 34·6 silver to 1 gold, or 55·2 per cent. below the old parity of 15½ to 1.

The past year was comparatively free from any violent occurrences directly affecting the general trade of the world, but it suffered from the effects of the series of crises which characterised the period from 1890-93, and particularly the eventful year 1893. The depression created by the great losses of the preceding four years, by the agricultural distress, the Australian crisis, the closing of the Indian mint, and the very serious American crisis, continued throughout the year in most branches of business, aggravated on the one side by the great shrinkage in the demand of extra-European countries, and particularly the United States, and by the further decline of silver, and on the other side by increased supplies of a number of articles, such as wheat, jute, tin, tallow, &c., and a phenomenal production of cotton and sugar. The crops of this country were plentiful, but being partly damaged by the wet weather, and realising excessively low prices, the agricultural depression was not relieved. The great coal strike in the Midlands was settled in March, but a fresh one broke out in Scotland in July. Of other events worth recording, there was the protracted tariff legislation, the final adoption of the new tariff in August, and the continued currency difficulties in the United States, increased by a deficit of $100 millions in the Government receipts during the last eighteen months; then the great accumulations of gold in the European banks and treasuries, the unprecedentedly low rate of interest, the rise of gilt-edged securities and of South African mining shares, and finally the outbreak of war between Japan and China, which latter, however, was probably of little importance to trade generally.

Since the beginning of December a slight improvement in trade has been noticeable, but it has so far not yet had any influence on prices. The index number was 60·1 in December, and 60·0 in January and February, the lowest on record.

The production of gold has made highly satisfactory progress, and the Director of the Mint at Washington gives the following estimates:—

		£
1890.	178,800 kilos. fine	= 24,400,000
'91.	196,600 „	= 26,800,000
'92.	220,100 „	= 30,000,000
'93.	236,600 „	= 32,300,000

The production probably reached 36 million £ in 1894, but of the new supply during the last two years nothing has gone into actual circulation.[1] If we deduct 24 million £ (or 12 million £ tha annum) for use in the arts and manufactures in Europe and price

lead, cotton and distribution during the seven years 1886-92, refer to my
in fact 16 ciety's *Journal*, 1893, p. 232.

North America, and assume that nothing was on balance retained by the East, Africa and South America, there remain 44 million £ for monetary purposes. The changes in the gold reserves of the principal European banks and treasuries during the same period I estimate as follows:—

	End of 1892.	End of 1894.
	Mln. £'s	Mln. £'s
Bank of England	24·4	32·5
„ France........................	68·3	82·8
German Imperial Bank*	41·9	52·3
Austria (bank and treasury)	26·0	36·0
Russia „ „	75·0	94·0
	235·6	297·6

* Gold and silver, but increase will all be gold.

There is an increase of 62 million £, and making allowance for a loss of 6 million £ by the United States in addition to their production, the increase in the banks and treasuries is 12 million £ larger than the total available new supply, while the smaller banks have also increased their holdings. These accumulations are partly due to the stagnation in business, and the lack of enterprise, and partly to political reasons. In the United States, according to official returns, the value of gold in the treasury has fallen from $238 millions at the end of 1892 to $139 millions at the end of 1894, while the amount of gold outside the treasury has increased from $413 to $485 millions. This increase of $72 millions, or nearly 15 million £, means, however, additional hoarding owing to the general distrust. When confidence returns and capital is no longer idle, and when the greater portion of the reserves and hoarded money is put into circulation, it will, with the expected further expansion of the gold production, have a powerful effect in maintaining on the average a somewhat higher range of prices than of late. With a supply of 36 million £ and average requirements of 15 million £ (12 million £ in the arts and manufactures in the gold countries, and 3 million £ for the East, Africa and South America), there remain 21 million £ available for currency purposes, which with silver token money should be an ample addition to the estimated currency of about 1,500 million £ (gold, silver and uncovered notes) in Europe, North America and Australia, if there is no great extra demand. Austria requires still some gold, and Russia may have reason to further increase her stock, while Italy, Spain, Portugal and Greece will be desirous to recover the gold lost if possible; but on the whole the extra demand will be less intense than during the last few years, unless silver should be demonetised or uncovered notes—for instance, greenbacks—should be withdrawn to any large extent.

*Quarterly Movements of Prices.**

Summary of Index Numbers, 1866-77 = 100.

Years.	Quarters.	Vegetable Food (Corn, &c.).	Animal Food (Meat, &c.).	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.†
1885	I	68·4	89·7	58·7	74·2	65·7	67·7	77·3	71·2	**72·5**	80·7
	II	69·9	89·5	64·1	76·2	65·7	67·1	75·7	70·4	**72·8**	81·1
	III	67·1	89·2	62·7	74·4	66·9	64·2	76·2	70·0	**71·8**	79·6
	IV	67·2	83·8	64·2	72·7	67·4	62·2	75·8	69·4	**70·8**	77·7
'86	I	66·5	87·0	61·2	72·9	67·0	61·3	74·0	68·2	**70·2**	77·0
	II	64·8	90·5	59·2	73·2	65·8	60·8	69·7	65·9	**69·0**	74·5
	III	63·8	88·8	58·3	71·9	66·4	64·3	68·8	66·8	**68·9**	71·2
	IV	65·1	85·3	60·9	71·6	67·7	65·2	69·6	67·7	**69·4**	75·8
'87	I	66·7	80·2	60·8	70·4	68·0	65·9	67·0	67·3	**68·5**	75·3
	II	65·4	79·0	66·8	70·7	66·8	64·0	66·5	65·8	**67·8**	72·2
	III	63·7	80·2	68·4	70·7	66·5	63·5	66·7	65·7	**67·8**	73·1
	IV	65·2	77·9	70·0	70·9	78·0	64·5	66·9	68·9	**69·7**	72·5
'88	I	66·0	78·8	63·5	70·2	85·1	62·7	67·3	70·7	**70·5**	71·9
	II	66·3	79·9	62·5	70·5	74·3	62·3	65·5	66·9	**68·5**	69·4
	III	67·3	84·4	65·7	73·5	76·5	63·2	66·3	68·1	**70·3**	69·8
	IV	69·0	84·7	68·4	74·7	77·6	67·6	70·2	71·4	**72·8**	70·4
'89	I	66·7	86·2	72·2	75·0	74·9	69·9	69·2	70·9	**72·7**	70·0
	II	63·9	84·1	85·7	76·2	69·0	69·1	67·5	68·4	**71·7**	69·0
	III	64·6	86·8	75·7	75·1	72·6	69·6	68·1	69·9	**72·0**	69·8
	IV	66·3	86·0	67·2	73·1	83·9	70·7	68·1	73·2	**73·2**	71·4
'90	I	63·7	86·3	68·6	73·1	80·6	69·1	68·7	72·0	**72·5**	72·6
	II	62·8	83·0	69·8	71·6	78·3	66·7	67·8	70·3	**70·8**	77·2
	III	67·2	80·6	73·1	73·4	81·7	64·6	69·2	71·1	**72·1**	85·1
	IV	67·4	82·0	71·2	73·6	80·5	62·7	69·5	70·4	**71·7**	79·6
'91	I	71·0	78·9	74·1	74·5	78·4	61·2	69·3	69·2	**71·4**	74·4
	II	77·8	80·1	72·2	77·5	77·7	59·2	69·5	68·5	**72·3**	73·6
	III	75·5	83·0	70·4	77·2	76·6	58·4	68·9	67·7	**71·7**	74·5
	IV	77·2	80·8	68·7	76·7	73·9	58·6	69·0	67·1	**71·2**	72·1
'92	I	70·6	82·7	69·1	74·8	72·2	59·2	67·1	66·0	**69·7**	67·4
	II	67·5	83·1	66·6	73·0	73·4	57·0	65·8	65·2	**68·5**	65·8
	III	64·2	85·9	68·2	73·0	70·7	53·2	65·6	63·2	**67·3**	63·2
	IV	60·7	83·6	72·7	71·7	69·5	57·3	67·4	64·9	**67·7**	64·0
'93	I	59·0	84·3	75·2	71·8	67·0	59·8	70·3	66·2	**68·5**	63·0
	II	59·7	83·0	78·9	72·3	63·8	57·7	68·2	63·8	**67·4**	58·3
	III	58·9	86·1	74·0	72·1	67·4	57·7	67·7	64·5	**67·7**	55·1
	IV	58·6	83·2	70·5	70·2	72·3	58·7	67·2	66·0	**67·8**	52·2
'94	I	57·0	80·3	69·0	68·1	65·8	56·8	65·1	62·7	**65·0**	47·3
	II	54·4	79·7	66·8	66·3	62·9	55·3	64·3	61·1	**63·3**	47·2
	III	54·8	80·4	63·8	66·1	63·0	53·0	63·9	60·3	**62·8**	48·4
	IV	53·2	78·4	60·8	64·1	62·3	48·2	63·5	58·5	**60·9**	46·6

* The four quarterly figures of each year do not in all cases exactly (in the decimals) agree with the annual averages, as the latter are partly calculated from revised figures.

† Silver 60·84*d.* per oz. = 100.

The quarterly numbers show the average of three monthly figures, and thus eliminate minor fluctuations; they give the best idea of the gradual changes of all commodities and of certain classes. Two years ago I pointed out that food and materials, and again among food products vegetable and animal food moved very often in opposite directions. This was also the case in 1893: food and materials moving differently in all the four quarters, and vegetable and animal food showing the divergence in the first three quarters, but since the end of 1893 all movements were alike, and this shows the strong force prevailing which affected all commodities in their downward course, leaving no redeeming feature. As compared with the last quarter of 1889, which was the highest here recorded, the decline for all commodities amounted to 17 per cent. on the average, and it extended to the various groups in the following manner: sundry materials 7 per cent., animal food 9, sugar, coffee, and tea together 10, corn, &c., 20, minerals 26, and textiles 32 per cent.

The next table shows the influence of certain seasons of the year on prices according to the average of the last ten years:—

Average of Ten Years 1885-94.	Actual Average of Index Numbers, 1867-77 = 100.				Percentages, 1885-94 = 100.			
	I Quarter.	II Quarter.	III Quarter.	IV Quarter.	I Quarter.	II Quarter.	III Quarter.	IV Quarter.
Vegetable food (corn, &c.)	65·56	65·25	64·71	64·99	100·66	100·18	99·35	99·79
Animal food	83·44	83·19	84·54	82·57	100·00	99·70	101·83	98·97
Sugar, coffee, and tea	67·24	69·26	68·03	67·46	98·88	101·85	100·04	99·21
Minerals	72·47	69·77	70·83	73·31	101·22	97·45	98·93	102·39
Textiles	63·36	61·92	61·17	61·57	102·18	99·86	98·66	99·30
Sundry materials	69·53	68·05	68·14	68·72	101·34	99·18	99·32	100·16
All 45 commodities	70·15	69·21	69·24	69·52	100·89	99·54	99·59	99·98

It confirms generally the conclusion arrived at two years ago. Vegetable food is cheapest in the third quarter when the harvest begins, it rises in the fourth, and the first quarter is the highest, while the second shows a falling tendency. In the case of animal food the third quarter is on the average the highest and the last quarter is the lowest, although the spring and summer months are influenced by the low prices of butter. The group of sugar, coffee, and tea is strongly affected by the great sugar speculations in the second quarter of 1889 and 1893, and the averages are therefore not reliable. Materials are in all cases higher during the winter than in the spring and summer quarters, though in the case of minerals some allowance should be made for the great speculation in the winter, 1887-88. For all commodities combined the first quarter is the highest, the fourth quarter comes next, and would have been nearly as high as the first, had the year 1894 with its great fall been left out. The second and third quarters are the lowest, the difference between the first and second amounting to nearly 1½ per cent.

Monthly Fluctuations of the Index Numbers of Forty-five Commodities*, 1867-77 = 100.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yea
1885	72·3	72·6	72·5	72·5	73·3	72·7	72·2	72·2	71·1	70·4	71·1	70·8	72
'86	70·0	70·5	70·1	69·2	69·1	68·7	68·8	69·1	68·9	68·8	69·8	69·5	69
'87	69·5	68·5	68·3	68·4	68·2	67·9	68·1	68·3	68·2	67·7	69·1	72·4	68
'88	70·9	70·6	69·9	69·8	68·1	67·4	69·0	70·1	71·9	72·4	72·7	73·2	70
'89	72·6	73·5	72·1	72·0	71·4	71·6	72·6	71·4	72·1	72·1	73·7	73·7	7
'90	73·2	72·7	71·5	71·2	70·8	70·5	71·2	72·8	72·2	72·9	71·2	71·1	7
'91	71·1	71·5	71·7	72·4	72·8	71·8	71·6	71·9	71·7	70·7	71·4	71·4	72
'92	70·0	70·0	69·1	68·9	68·8	67·7	67·8	67·4	66·8	67·4	68·2	67·7	68
'93	68·4	69·0	68·1	67·4	67·4	67·4	67·7	67·1	68·2	68·6	67·8	67·0	68
'94	65·8	65·0	64·3	63·8	63·1	63·1	62·6	63·0	62·7	61·7	60·8	60·1	63
Total	703·8	703·9	697·6	695·6	693·0	688·8	691·6	693·3	693·8	692·7	695·8	696·9	694
Percentages, 1885-94 = 100	101·4	101·4	100·5	100·2	99·9	99·3	99·7	99·9	100·0	99·8	100·3	100·4	100

* The twelve monthly figures of each year do not in all cases exactly (in the decimals) agr with the annual averages, as the latter are partly calculated from revised figures.

As I have been asked to publish a table of the monthly fluctuations, and to draw an average in a similar manner as I had done with the quarterly movements, I now give the above figures for the last ten years, which may be a sufficiently long period for this purpose; but I have to observe that the result cannot be fully relied upon as the monthly fluctuations are often accidental. The same applies here to the December average as in the case of the former table to the fourth quarter. If the year 1894, with its great fall, had been left out, the December average would have been almost as high as the January and February figures. But so far as it goes it shows that the winter months are on the average higher than the summer months, although the latter had been influenced by the extraordinary movements of sugar in June, 1889 and 1893. The difference between the highest and lowest month is 2 per cent., and the figures in the two tables indicate to what extent allowance has to be made in judging of movements from month to month, or from quarter to quarter.

The following figures show in each case the average index numbers of all the forty-five commodities of ten years (see the dotted line in the diagram of the *Journal*, 1886); they give the best picture of the gradual movement of the average prices of whole periods, as the ordinary fluctuations are still further obliterated:—

1818-27 = 111
'28-37 = 93
'38-47 = 93
'48-57 = 89
'58-67 = 99
'68-77 = 100

1874-83 = 90
'75-84 = 87
'76-85 = 85
'77-86 = 82
'78-87 = 79
'79-88 = 78

1880-89 = 76
'81-90 = 75
'82-91 = 74
'83-92 = 72
'84-93 = 71
'85-94 = 69

The arithmetical mean of the forty-five index numbers, which is 63 for 1894, has, as in former years, again been subjected to two tests:—

Firstly, by using the same index numbers of the separate articles, but calculating each article according to its importance in the United Kingdom on the average of the three years 1889-91, when the mean for 1894 is 62·0 against 67·1 in 1893.

Secondly, by calculating the quantities in the United Kingdom at their actual values (the production on the basis of my price tables, the imports at Board of Trade values, and consequently a considerable portion according to a different set of prices) and at the nominal values on the basis of the average prices from 1867-77. In this case the mean is 64·3 against 68·0 in 1893. That the figure is somewhat higher than the ordinary index number is partly due to the still high export price of coals, and partly to the fact that in a falling market the import values declared to the Board of Trade must on the average necessarily be higher than the prices ultimately realised.

The following table gives the figures which have served for the second test (see also the Society's *Journal*, 1886, pp. 613—19):—

Movements of Forty-five Commodities in the United Kingdom (Production and Imports).

	Estimated Actual Value in each Period.	Nominal Values at Average Prices of 1867-77, showing Increase in Quantities.	Movement of Quantities, 1848-50 = 100.	Movement of Quantities from Period to Period.	Ratio of Prices according to this Table, 1867-77 = 100.
	Mln. £'s and dec.	Mln. £'s and dec.			
Arge. 1848-50	219·8	294·8	100	—	74·6
„ '59-61	350·1	382·7	130	30% over 1849	91·5
„ '69-71	456·6	484·6	164	27% „ '60	94·2
„ '74-76	537·8	538·4	183	—	99·9
„ '79-81	489·7	578·5	196	19% over 1870	84·6
„ '84-86	445·7	610·1	207	—	73·0
„ '89-91	504·1	685·2	233	18% over 1880	73·6
1892	482·9	686·5	233	—	70·3
'93...............	445·8	655·3	223	—	68·0
'94*	448·4	696·8	236	2% over 1890	64·3

* 1894 subject to correction after publication of the mineral produce returns.

The nominal values at the uniform prices of 1867-77 show the exact movement of quantities in the aggregate. The quantities have remained practically unchanged on the average of the last six years; during the three years 1889-91 they were 18 per cent. larger than in 1880, and 133 per cent. larger than in 1849. There was a considerable decrease in 1893, principally owing to diminished supplies of coals and cotton, while the figure for 1894 is barely 2 per cent. higher than 1889-91. The actual value in 1894 was less than the average of 1869-71, although the quantities were 44 per cent. larger.

Construction of the Tables.

The Table of *Index Numbers* is based on the average prices of the eleven years 1867-77, and the index numbers have been calculated in the ordinary arithmetical way; for instance, English wheat:—

	s.	d.	
Average, 1867-77....	54	6	= 100, average point.
,, '55	74	8	= 137, or 37 per cent. above the average point.
,, '94	22	11	= 41, ,, 59 ,, below ,,

The index numbers therefore represent simple percentages of the average point.

Certain articles which appear to have something in common have been grouped together, with the following result:—

		Example for 1894.	
		Total Numbers.	Average.
1. Vegetable food, corn, &c. (wheat, flour, barley, oats, maize, potatoes, and rice)	With 8 Index Nos.	439	55
2. Animal food (beef, mutton, pork, bacon, and butter)........	,, 7 ,,	560	80
3. Sugar, coffee, and tea	,, 4 ,,	260	65
1—3. *Food*	,, 19 ,,	1,259	66
4. Minerals (iron, copper, tin, lead, and coals)	,, 7 ,,	445	64
5. Textiles (cotton, flax, hemp, jute, wool, and silk)	,, 8 ,,	424	53
6. Sundry materials (hides, leather, tallow, oils, soda, nitrate, indigo, and timber)	,, 11 ,,	704	64
4—6. *Materials*........	,, 26 ,,	1,573	60
General average	,, 45 ,,	2,832	63

The *general average* is drawn from all 45 descriptions, which are treated as of equal value, and is the simple arithmetical mean as shown above.

*Average Prices of Commodities.**

o. of ticle }	0	1	2	3	4	5	6	7	8	1–8	9
		Wheat.		Flour.	Barley.	Oats.	Maize.	Potatoes.*	Rice.		Beef ‡
ear.	Silver.†	English Gazette.	American.	Town Made White.	English Gazette.	English Gazette.	American Mixed.	Good English.	Rangoon Cargoes to Arrive.	Vegetable Food. Total.	Prime.
	d. per oz.	*s.* and *d.* per qr.	*s.* and *d.* per qr.	*s.* per sack (280 lbs.).	*s.* and *d.* per qr.	*s.* and *d.* per qr.	*s.* per qr.	*s.* per ton	*s.* and *d.* per cwt.		*d.* per 8 lbs.
0	52¼	44·4	51	39	33·1	23·1	25¾	130	9·1	—	58
1	51$\frac{11}{16}$	45·4	52	40	31·11	21·9	27¾	85	8·4	—	56
2	51⅜	45·1	48·6	40	31·2	21·10	31	95	7·5	—	60
3	50$\frac{9}{16}$	41·7	45	36	31·10	21·5	27¾	105	8·1	—	61
4	50$\frac{11}{16}$	35·8	36·6	31	30·8	20·3	25¼	75	7·8	—	58
5	48⅝	32·10	35	29	30·1	20·7	23	75	7	—	52
6	45⅜	31	35	28	26·7	19	21	80	6·7	—	49
7	44⅝	32·6	34	28	25·4	16·3	21¼	85	6·10	—	43
8	42⅞	31·10	37	30	27·10	16·9	23⅛	80	7·1	—	48
9	42$\frac{11}{16}$	29·9	35	29	25·10	17·9	20	80	7·3	—	47
0	47$\frac{11}{16}$	31·11	35·6	29	28·8	18·7	20	70	7·3	—	47
1	45$\frac{1}{16}$	37	40	33	28·2	20	28	92	7·11	—	47
2	39$\frac{13}{16}$	30·3	33	28	26·2	19·10	21¾	70	7·8	—	47
3	35⅝	26·4	27·6	26	25·7	18·9	20	65	6·2	—	48
4	28$\frac{15}{16}$	22·11	23·6	22	24·6	17·1	20	70	5·10	—	47
rage											
5–94	42¼	30½	33½	28	27	18½	22	77	6⅞	—	47½
3–87	50	40	43½	34½	31½	21	25	102	8	—	55½
7–77	58⅓	54½	56	46	39	26	32½	117	10	—	59
	Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.										
0	85·9	81	91	85	85	89	79	111	91	712	98
1	85	83	93	87	82	84	85	73	83	670	95
2	84·9	83	87	87	80	84	95	81	74	671	102
3	83·1	76	80	78	82	82	85	90	81	654	104
4	83·3	65	65	65	79	78	78	64	77	571	98
5	79·9	60	62	63	77	79	71	64	70	546	88
6	74·6	57	62	61	68	73	65	69	66	521	83
7	73·3	60	61	61	65	63	65	73	68	516	73
8	70·4	58	66	65	71	64	72	69	71	536	81
9	70·2	55	63	63	66	69	61	69	72	518	80
0	78·4	59	63	63	73	72	61	60	72	523	80
1	74·1	68	71	72	72	77	86	79	79	604	80
2	65·4	56	59	61	67	76	67	60	77	523	80
3	58·6	48	50	54	66	72	61	56	62	469	81
4	47·6	41	42	48	63	66	61	60	58	439	80

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* The annual prices are the averages of twelve monthly or fifty-two weekly quotations; tatoes of eight monthly quotations, January to April and September to December.

† Index numbers of silver as compared with 60·84*d.* per ounce being the parity between gold d silver at 1 : 15½; not included in the general average.

‡ Meat (9—18), by the carcase, in the London meat market.

Average Prices of Commodities—Contd.

No. of Article	10	11	12	13	14	15	9—15	16A	16B	17	18A*	18B*
	Beef.	Mutton.		Pork.	Bacon.	Butter.			Sugar.		Coffee.	
Year.	Middling. d. per 8 lbs.	Prime. d. per 8 lbs.	Middling. d. per 8 lbs.	Large and Small, Average. d. per 8 lbs.	Waterford. s. per cwt.	Friesland, Fine to Finest. s. per cwt.	Animal Food. Total.	British West Indian Refining. s. per cwt.	Beet, German, 88 p. c., f.o.b. s. per cwt.	Java, Floating Cargoes. s. per cwt.	Ceylon Plantation, Low Middling. s. per cwt.	Rio, Good Channel. s. per cwt.
1880	49	66	54	55	76	125	—	20½	21½	25½	87	61
'81	48	69	57	54	76	123	—	21¼	22	26½	80	49
'82	51	72	60	51	74	125	—	20	21½	25½	65	39
'83	51	73	61	49	72	123	—	19	20¼	24½	76	43
'84	49	64	53	48	70	120	—	13¼	13¼	17½	62	47
1885	44	56	47	45	68	111	—	13½	14¼	17½	60	39
'86	40	62	50	45	67	100	—	11¾	11¾	14¼	68	46
'87	36	52	42	43	61	103	—	11¾	12½	14½	90	78
'88	39	58	47	40	61	100	—	13	13¾	16	80	64
'89	39	63	50	43	66	102	—	16	16½	19	95	76
1890	38	59	45	42	62	100	—	13	12½	15¼	101	83
'91	40	53	42	39	63	106	—	13½	13½	15½	101	76
'92	38	53	42	48	68	108	—	13⅛	13¾	16	104	68
'93	39	53	42	50	68	106	—	14¼	15	17¼	103	81
'94	37	55	42	44	59	98	—	11¼	11¼	13¾	102	75
Average 1885–94	39	56½	45	44	64½	103	—	13¼	13½	16	90	69
'78–87	46	64½	53	49	71	116	—	17	18	21½	78	52
'67–77	50	63	55	52	74	125	—	23	24	28½	87	64
Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.												
											*	*
1880	98	105	98	106	103	100	708	89		89	100	95
'81	96	109	104	104	103	98	709	92		93	92	77
'82	102	114	109	98	100	100	725	87		89	75	61
'83	102	116	111	94	97	98	722	84		86	87	67
'84	98	102	96	92	95	96	677	56		62	91	74
1885	88	89	85	87	92	89	618	59		62	69	61
'86	80	98	91	87	91	80	610	50		50	78	72
'87	72	83	76	83	82	82	551	52		51	104	122
'88	78	92	85	77	82	80	575	57		56	92	100
'89	78	100	91	83	89	82	603	69		67	109	119
1890	76	94	82	81	84	80	577	54		54	116	130
'91	80	84	76	75	85	85	565	57		54	116	119
'92	76	84	76	92	92	86	586	58		56	120	106
'93	78	84	76	96	92	85	592	62		61	118	127
'94	74	87	76	85	80	78	560	48		48	117	117

* Index numbers not included in the general average.

Average Prices of Commodities—Contd.

No. of Article	18	19A*	19B*	19	16—19	1—19	20	21	22	—	23
	Coffee.	Tea.			Sugar, Coffee, and Tea.		Iron.		Copper.		Tin.
Year.	Mean of 18A and 18B.	Congou, Common. d. per lb.	Average Import Price. d. and dec. per lb.	Mean of 19A and 19B.	Total.	Food. Total.	Scotch Pig. s. and d. per ton	Bars, Common. £ per ton	Chili Bars. £ per ton	English Tough Cake. £ per ton	Straits. £ per ton
1880......	Prices, see preceding page 18A and 18B.	8¾	13·47	—	—	—	54·6	6¾	63	68	88
'81......		6½	12·82	—	—	—	49·1	5¾	62	67	93
'82......		5	12·58	—	—	—	49·4	6¼	66	71	102
'83......		5¾	12·46	—	—	—	46·9	5¾	63	67	93
'84......		6¼	11·78	—	—	—	42·1	5⅛	54	59	81
1885......		6½	12·06	—	—	—	41·10	4⅞	43	47	87
'86......		6½	11·77	—	—	—	39·11	4⅝	40	44	98
'87......		5	10·58	—	—	—	42·3	4⅝	44	47	112
'88......		4	10·99	—	—	—	39·11	4⅞	81	78	117
'89......		4¼	10·79	—	—	—	47·9	6¼	51	54	93
1890......		4½	10·65	—	—	—	49·7	6⅜	54	59	94
'91......		3½	10·70	—	—	—	47·2	5⅝	51	55	91
'92......		4⅞	10·07	—	—	—	41·10	5½	45	48	93
'93......		5⅜	9·74	—	—	—	42·4	5	44	47	85
'94......		4¼	9·66	—	—	—	42·8	4⅞	40	43	68
Average 1885-94		5	10¾	—	—	—	43½	5¼	49	52	94
'78-87		6¾	12¾	—	—	—	46	5½	55	60	89
'67-77		11¼	17¼	—	—	—	69	8¼	75	81	105

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

		*	*								
1880 ..	97	78	78	78	353	1,773	79	82	84	—	84
'81....	84	58	75	66	335	1,714	71	70	83	—	89
'82....	68	45	73	59	303	1,699	71	76	88	—	97
'83	77	49	72	60	307	1,683	69	70	84	—	89
'84......	73	56	68	62	253	1,501	61	62	72	—	77
1885 .. .	65	58	70	64	250	1,414	60	59	57	—	83
'86......	75	58	69	64	239	1,370	58	56	53	—	93
'87......	113	44	62	53	269	1,336	61	56	59	—	107
'88......	96	36	64	50	259	1,370	58	59	108	—	111
'89	114	38	63	50	300	1,421	69	76	68	—	89
1890	123	40	62	51	282	1,382	72	77	72	—	90
'91......	118	49	62	56	285	1,454	68	68	68	—	87
'92......	113	43	59	51	278	1,387	61	66	60	—	89
'93......	123	48	57	53	299	1,360	61	61	59	—	81
'94......	117	38	56	47	260	1,259	62	59	53	—	65

* Index numbers not included in the general average.

Average Prices of Commodities—Contd.

No. of Article	24	25	26	20—26	27	28	29A	29B	30A	30B	31
	Lead.	Coals.			Cotton.		Flax.		Hemp.		Jute.
Year.	English Pig.	Wallsend Hetton in London	Average Export Price.	Minerals. Total.	Middling Uplands.	Fair Dhollerah.	St. Petersburg 12 Head Best.	Russian, Average Import.	Manilla Fair Roping.	St. Petersburg Clean.	Good Medium.
	£ per ton	s. per ton	s. and dec. per ton		d. per lb.	d. per lb.	£ per ton	£ per ton	£ per ton	£ per ton	£ per ton
1880........	16½	15½	8·95	—	6$\frac{15}{16}$	5¼	35	40	30	23	18½
'81........	15⅝	17	8·97	—	6$\frac{7}{16}$	4⅜	32½	33	43	24	18¾
'82........	14½	17	9·14	—	6⅜	4$\frac{5}{16}$	29½	30½	46	24	15
'83........	12⅞	18	9·35	—	5¾	3⅞	30	30½	46	26	14½
'84........	11¼	16½	9·29	—	6	3$\frac{15}{16}$	29½	30¾	38	29	13½
1885........	11⅝	16½	8·95	—	5⅝	4¼	34	35	35	29	12
'86........	13¼	16	8·45	—	5⅛	3$\frac{9}{16}$	35	35	29	29	11
'87........	12⅞	16	8·32	—	5½	3$\frac{9}{16}$	32	31½	34	29	12
'88........	13⅞	16½	8·41	—	5$\frac{9}{16}$	3⅞	29	28	37	26	13
'89........	13	17½	10·21	—	5$\frac{15}{16}$	4⅛	28	28	50	26	15
1890........	13¼	19	12·62	—	6	3$\frac{15}{16}$	27	26	39	26	13
'91........	12½	19	12·16	—	4$\frac{11}{16}$	3¼	28	26	32	24	13
'92........	10⅝	18½	11·04	—	4$\frac{3}{16}$	3	28	26	28	24	15
'93........	9¾	19½	9·90	—	4⅝	3$\frac{9}{16}$	34	31½	26	24	13
'94........	9⅜	16½	10·51	—	3$\frac{13}{16}$	2⅝	32	33	22	24	12
Average 1885–94	12	17½	10	—	5⅛	3$\frac{9}{16}$	30½	30	33	26	13
'78–87	14	16¾	9	—	6	4¼	33	34	35½	26½	15
'67–77	20½	22	12½	—	9	6¾	46	48	43	35	19

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

Year.	24	25	26	20—26	27	28	29A–29B	30A–30B	31
1880........	80	70	72	551	77	78	79	68	99
'81........	74	77	72	536	71	65	70	86	98
'82........	71	77	73	553	74	64	64	90	79
'83........	63	82	75	532	64	58	65	92	75
'84........	55	75	74	476	67	59	64	86	71
1885........	57	75	72	463	62	63	73	82	63
'86........	65	73	68	466	57	53	75	74	61
'87........	63	73	67	486	62	53	68	81	64
'88........	68	75	67	546	62	58	61	81	70
'89........	63	80	82	527	66	61	60	97	73
1890........	65	86	101	563	67	58	56	82	70
'91........	61	86	97	535	52	48	57	72	68
'92........	52	84	88	500	46	45	57	67	73
'93........	48	89	80	479	51	53	70	64	63
'94........	47	75	84	445	42	39	69	59	64

Average Prices of Commodities—Contd.

No. of Article	32A	32B	33	34	27—34	35A	35B	36	37A	37B	38
	Wool.			Silk.		Hides.		Leather.	Tallow.		Oil.
Year.	Merino, Port Phillip, Average Fleece.	Merino, Adelaide, Average Grease.	English, Lincoln Half Hogs.	Tsatlee.	Textiles. Total.	River Plate, Dry.	River Plate Salted.	Crop Hides, 30–45 lbs	St. Petersburg, Y.C.	Town.	Palm.
	d. per lb.	*d.* per lb.	*d.* per lb.	*s.* per lb.		*d.* per lb.	*d.* per lb.	*d.* per lb.	*s.* per cwt.	*s.* per cwt.	£ per ton
1880.......	21½	10⅝	15⅛	15	—	9¼	7½	15½	41	36	32
'81.......	19½	9¼	12⅜	15¾	—	9	7	15¼	42	38	32
'82.......	19¾	9	11¼	15¾	—	9	7	15	52	44	35
'83.......	19	8½	10	15¾	—	9	7	15	50	43	41
'84.......	18¼	8⅛	10	14½	—	9	7	15	47	37½	36
1885.......	16½	6¾	9⅞	12¾	—	8¾	6½	15	38	30½	30
'86.......	15½	6⅝	10	13¾	—	8	5¾	15	31	26	24
'87.......	15¾	7	10⅝	14⅛	—	7¾	6¼	15	31	24	22
'88.......	15¾	7	10⅜	13	—	6¾	4⅞	14	36	28	22
'89.......	17½	8¼	11	13½	—	6¼	5	13½	38	27	25
1890.......	16	7⅛	11	14	—	5¾	5⅛	13	38	26	27
'91.......	14¾	6⅞	9¾	13	—	5½	5⅛	13	40	27½	26
'92.......	13	6	8¾	12¼	—	5½	4⅝	13	45	27	24
'93.......	12¾	6	10¼	12⅛	—	5⅛	4⅞	13	48	30½	28
'94.......	11¾	5⅞	10⅛	10	—	5½	4¾	12½	48	25½	24½
Average 1885-94	15	6¾	10⅛	13	—	6½	5⅜	13¾	39	27	25
'78-87	18½	8⅜	11¾	15	—	8⅝	6¾	15	41	35½	32½
'67-77	21¼	9⅞	19¾	23	—	9	7	16	45	45	39

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

Year.	32	33	34	27—34	35	36	37	38
1880.......	103	77	65	646	105	97	86	82
'81.......	92	63	68	613	100	95	89	82
'82.......	92	57	68	588	100	94	107	90
'83.......	89	51	68	562	100	94	103	105
'84.......	85	51	63	546	100	94	94	92
1885.......	73	50	55	521	95	94	76	77
'86.......	70	51	60	501	85	94	63	61
'87.......	72	54	63	517	88	94	61	56
'88.......	72	53	57	514	73	87	71	56
'89.......	82	56	59	560	70	84	72	64
1890.......	76	56	61	526	70	81	71	69
'91.......	70	49	57	473	66	81	75	67
'92.......	61	44	53	452	63	81	80	61
'93.......	60	52	54	472	65	81	87	72
'94.......	55	51	43	424	64	78	82	63

Average Prices of Commodities—Contd.

No. of Article	39	40A	40B	41	42	43	44	45A	45B	36—45	20—45	1—45
	Oil.		Seeds.	Petroleum.*	Soda.		Indigo.	Timber.				
Year.	Olive.	Linseed.	Linseed.	Refined.	Crystals.	Nitrate of Soda.	Bengal, Good Consuming.	Hewn, Average Import.	Sawn or Split, Average Import.	Sundry Materials. Total.	Materials. Total.	Grand Total.
	£ per tun	£ per ton	s. per qr.	d. per gall.	s. per ton	s. per cwt.	s. per lb.	s. per load	s. per load			
1880........	41	27	54	7½	74	15½	7¼	49	52	—	—	—
'81........	38	26	50	7¼	65	14½	6¾	51	50	—	—	—
'82........	37	23	44	6	63	13¼	6½	52	52	—	—	—
'83........	36	20	42	6½	66	11¼	6¼	52	48	—	—	—
'84........	40	20	43	6½	65	9½	6	48	46	—	—	—
1885........	39	22	44	6⅞	55	10½	5¼	48	45	—	—	—
'86........	38	20½	42	5⅞	49	10	5	43	43	—	—	—
'87........	34	20½	38	5⅝	50	9½	4¾	38	42	—	—	—
'88	36	18½	39	6½	48	10	4¾	41	44	—	—	—
'89........	35	20	42	5¾	51	9½	4½	47	49	—	—	—
1890........	41	23	43	5⅝	61	8½	4¼	44	46	—	—	—
'91........	43	21	42	5⅝	64	8¾	4¾	40	43	—	—	—
'92........	36	18½	39	5	66	8¾	4½	40	44	—	—	—
'93........	36	20½	42	4	58	9¼	5½	38	43	—	—	—
'94........	35	20¼	38	3⅞	42	9¼	5	36	44	—	—	—
Average 1885-94	37	20½	41	5½	54	9½	4⅞	41½	44	—	—	—
'78-87	40	23	46	6⅞	62	12½	6	47	47	—	—	—
'67-77	50	30	60	12½*	92	14	7¼	60	54	—	—	—

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

Year	39	40A–40B	41*	42	43	44	45A–45B	36—45	20—45	1—45
1880........	82	90	60	80	111	100	89	982	2,179	3,951
'81........	76	85	58	71	104	93	89	942	2,091	3,805
'82........	74	75	48	69	95	90	91	933	2,074	3,773
'83........	72	68	52	72	80	86	88	920	2,014	3,697
'84........	80	69	52	71	68	83	82	885	1,907	3,408
1885........	78	73	55	60	75	72	81	836	1,820	3,234
'86........	76	69	47	53	71	69	76	764	1,731	3,101
'87........	68	65	45	54	68	66	70	735	1,738	3,074
'88........	72	63	52	52	71	66	74	737	1,797	3,167
'89........	70	69	46	55	68	62	84	744	1,831	3,252
1890........	82	73	45	66	61	59	79	756	1,845	3,227
'91........	86	70	45	70	63	66	73	762	1,770	3,224
'92........	72	64	40	72	63	62	74	732	1,684	3,071
'93........	72	69	32	62	66	76	71	753	1,704	3,064
'94........	70	65	31	46	66	69	70	704	1,573	2,8[illegible]

* Petroleum as compared with the average from 1873-77 only.

III.—*Financial Relations between Great Britain and Ireland.*

THE following tables are extracted from the important *Memorandum presented to the Royal Commissioners appointed to consider the Financial Relations between Great Britain and Ireland* by Sir Edward W. Hamilton, K.C.B. [London: Eyre and Spottiswoode, 1894.] The time under review (1782—1894) is divided into three periods, 1782—1800, 1801-16, and 1817-94, the financial relations between the two countries being on an entirely different basis during each of the three periods. The accompanying tables have been selected to show what proportion of the whole revenue of the Kingdom has been paid by Great Britain and Ireland respectively, and also to illustrate to some extent the comparative capability of each to contribute to the common income. The first table shows the revenue and expenditure of Ireland in 1782—1800, when she contributed nothing to the common support of the Empire; the amounts raised in 1800-94 are given in Tables II and III. The revenues, expenditures, and debts of Great Britain and Ireland in 1800 are shown in Table IV, and a comparison of the debts in 1801 and 1817 in Table V. Table VI is a summary of various tests as to the relative prosperity of the two islands in 1864. In Table VII the main sources of revenue in 1819-20 and 1892-93 are compared, and Table VIII shows the amount of revenue under different heads in 1892-93. Some explanation of the relations between the two countries, and the legislation regulating the amounts paid by each, appears to be necessary, and the following is a short summary of the information given in the *Memorandum*:—

At the time when legislative independence was accorded to Ireland in 1782, though there was, as there had always been, reposed in the sovereign the constitutional right of disposing of the Irish surplus revenue, yet that right was not being directly exercised, except possibly to a limited extent, in the granting of pensions. Indirectly, however, Ireland was contributing to the support of the Empire; for that country was bound to maintain, for service in England or abroad, a certain number of soldiers. For some time the maintenance of these soldiers constituted Ireland's sole contribution to Imperial services, but their number was greatly increased when war broke out with France; the great increase in expenditure after 1794 (see Table I) is attributable to the French war and the rebellion in Ireland itself. The total Irish debt (funded and unfunded) amounted in 1783 to 1,917,784*l.*, and, owing chiefly to the war, &c., in 1801, to 28,541,157*l.*

The following were the most important provisions, so far as concerned the financial relations, of the Treaty of Union of 1800: (1) The interest and sinking fund of the debts incurred by Great Britain and Ireland previously to the Union were to continue to be separately defrayed by each kingdom; (2) for the next twenty years Great Britain and Ireland were to contribute jointly towards the expenditure of the United Kingdom in the respective proportions of 15 to 2, this proportion being, after that term, subject to revision, and subsequent revisions were to be made at periods of not less than seven, or more than twenty, years; (3) Irish revenues were to constitute a consolidated fund, on which the payments in respect of Ireland's pre-Union debt were to be the first charge, the remainder being applied to defray Ireland's contribution to the joint expenditure; (4) taxes were to be imposed in each country, but no article in Ireland was to be taxed at a higher rate than in England; (5) if, after payment of the above-mentioned charges, Ireland had a surplus, it was to be devoted to remission of taxation, to local purposes, to making good deficiencies of Irish revenue in time of peace, or to building up a war reserve fund of not more than 5,000,000*l.*; (6) all debt incurred by Parliament subsequent to the Union for the United Kingdom, was to be considered a joint debt.

In 1816 the exchequers of the two countries were consolidated, and since that time Ireland's contribution to Imperial expenditure has never been a fixed quantity, but has been represented by the amount by which her true revenue has exceeded her own local expenditure. The taxes raised have not, however, been the same in the two countries, although many of them which were different in 1816 have since been assimilated. The rates on tabacco were equalised in 1819, stamp duties in 1842, spirit duties (after Ireland had enjoyed much favour in this respect, especially about 1823-40) in 1858. The income tax had been repealed throughout the kingdom in 1817, and was only re-imposed in 1842 in Great Britain; it was re-imposed in Ireland in 1853. The grievances of Ireland concerning Irish taxation were often brought before Parliament, and the tests adduced by a Select Committee as to the comparative material prosperity of the two countries in 1864 may be summarised as in Table VI. The principal difference in the taxation of the two countries at present is that there is in Ireland no land-tax or house-duty.

TABLE I.—*Showing the Revenue and Expenditure of Ireland in each Year from* 1782-83 *to* 1800-01 *inclusive.*

Year ending 25th March,	Revenue (Converted into British Currency).*				Expenditure (Converted into British Currency).*				Surplus (+) or Deficit (−).
	Customs and Excise.	Other Taxes.	Miscellaneous.	Total.	Debt Charges.	Civil Government.	Naval and Military Expenditure.	Total.	
	£	£	£	£	£	£	£	£	£
1783	750,898	63,748	291,858	1,106,504	120,830	583,766	609,131	1,313,727	− 207,223
'84	852,621	59,554	101,693	1,018,869	127,210	526,074	488,985	1,142,269	− 128,400
'85	792,316	49,511	39,237	881,064	130,335	376,292	502,157	1,008,784	− 127,720
'86	869,529	75,923	182,466	1,127,918	144,023	428,231	606,591	1,178,845	− 50,927
'87	952,231	59,306	216,947	1,228,484	139,682	467,853	569,974	1,177,509	+ 50,975
'88	975,964	99,316	185,002	1,260,282	147,763	621,096	580,857	1,349,716	− 89,434
'89	913,197	78,725	241,489	1,233,411	143,248	520,737	571,036	1,235,021	− 1,610
1790	971,859	74,739	334,683	1,381,281	140,578	556,534	598,771	1,295,883	+ 85,397
'91	1,000,009	90,902	222,566	1,313,477	129,327	582,512	672,248	1,384,087	− 70,610
'92	975,554	83,335	309,525	1,368,414	133,173	647,277	615,500	1,395,950	− 27,536
'93	934,381	94,486	334,933	1,363,800	132,587	616,255	614,546	1,363,388	+ 412
'94	878,488	79,971	220,413	1,178,872	146,507	688,534	745,828	1,580,869	− 401,997
'95	1,110,120	97,355	267,741	1,475,216	214,425	740,879	1,553,562	2,508,866	− 1,033,650
'96	1,130,377	103,718	317,497	1,551,592	244,978	702,586	1,855,369	2,802,933	− 1,251,341
'97	1,273,369	120,813	308,927	1,703,109	408,286	661,137	2,032,130	3,101,553	− 1,398,444
'98	1,390,393	113,541	580,132	2,084,069	622,693	715,775	3,401,760	4,740,228	− 2,656,159
'99	1,591,776	117,386	436,556	2,145,718	763,577	879,581	3,865,530	5,508,688	− 3,362,970
1800	2,403,961	167,243	441,554	3,017,758	1,232,532	1,025,510	4,596,762	6,854,804	− 3,837,046
Three quarters ending 5th Jan., 1801	1,564,316	142,662	497,185	2,204,163	1,145,552	953,610	2,757,193	4,856,355	− 2,652,192

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* 1*l.* British sterling equalled 1*l.* 1*s.* 8*d.* in Irish currency. Accordingly, in order to translate into British currency sums denoted in Irish currency, it is necessary to deduct one-thirteenth, or 1*s.* 8*d.* per 1*l.*, from such sums. The two currencies were not assimilated until 1825, when

Table II.—*Showing how the Proportions of the Joint Expenditure, in which Great Britai and Ireland were respectively Liable, were met in each of the Sixteen Years ending the 5th January*, 1817.

Year ending 5th January.	Total Joint Expenditure.	Proportion Payable under Treaty of Union.		Amounts Paid.		Amounts Paid More (+) or Less (−) than Proportions Payable. Ireland.	
		Great Britain $\frac{15}{17}$ths.	Ireland $\frac{2}{17}$ths.	Great Britain.	Ireland.	In the Year.	In respect of Balances Due in former Year
	£	£	£	£	£	£	£
1802...	31,493,806	27,788,653	3,705,153	27,244,649	4,249,157	+ 544,004	....
'03....	30,762,548	27,143,425	3,619,123	27,226,896	3,535,652	− 83,471	....
'04....	29,270,398	25,826,822	3,443,576	25,094,264	4,176,134	+ 732,558	....
'05....	41,822,115	36,901,866	4,920,249	36,461,371	5,360,744	+ 440,495	....
'06....	47,408,331	41,830,880	5,577,451	42,389,260	5,019,071	− 558,380	....
'07....	46,556,180	41,078,982	5,477,198	41,611,510	4,944,670	− 532,528	....
'08....	47,255,642	41,696,155	5,559,487	42,111,253	5,144,389	− 415,098	....
'09...	54,408,461	48,007,466	6,400,995	48,777,220	5,631,241	− 769,754	....
1810....	55,500,913	48,971,394	6,529,519	49,781,856	5,719,057	− 810,462	....
'11....	56,913,580	50,217,865	6,695,715	51,589,475	5,324,105	− 1,371,610	+ 1,270,0
'12....	62,735,819	55,355,135	7,380,684	57,140,336	5,595,483	− 1,785,201	+ 1,465,0
'13....	67,298,472	59,381,004	7,917,468	61,992,254	5,306,218	− 2,611,250	+ 1,656,2
'14....	80,444,184	70,980,162	9,464,022	75,124,725	5,319,459	− 4,144,563	+ 2,603,4
'15....	82,872,940	73,123,183	9,749,757	77,589,312	5,283,628	− 4,466,129	+ 2,466,5
'16....	67,354,611	59,430,539	7,924,072	62,372,290	4,982,321	− 2,941,751	+ 6,107,9
'17....	39,850,719	35,162,399	4,688,320	35,427,065	4,423,654	− 264,666	+ 1,184,0
Total...	841,948,719	742,895,930	99,052,789	761,933,736	80,014,983	−19,037,806	+16,75
Net balance due from Ireland on 5th January, 1817...........						£ − 2,284,534	

	£	
Credit was given to Ireland on account of—		
(1) imprest moneys repaid to the British exchequer in 1802-17, viz.	160,786	
and (2) overpayments made by Ireland in respect of long annuities, viz.	5,062	
A further payment was made by Ireland on the joint account in 1817-18, viz.	117,228	
		283,076
So the balance found to be finally due from Ireland was		2,001,458

And this was cancelled by the Act 57 Geo. III, cap. 48, sec. 4.

TABLE III.—***Net* REVENUE *collected in* GREAT BRITAIN *and* IRELAND *respectively* (*after deduction of repayments, drawbacks, and allowances, but without deduction on account of collection expenses and certain other charges, which were formerly met out of Revenue in its progress to the Exchequer, instead of being voted, as now, and charged on the general revenues of the United Kingdom*).**

[In the *Memorandum* the figures are given for each year; the averages for each decade only are here given.]

Average of Years ending	[000's omitted.]			Per Cent. of Total.	
	Great Britain.	Ireland.	Total.	Great Britain.	Ireland.
	£	£	£		
5th Jan., 1818–24	53,735	4,982	58,717	91·52	8·48
„ '25–34	49,948	4,407	54,355	91·89	8·11
„ '35–44	47,313	4,384	51,677	91·52	8·48
„ '45–54	53,041	4,490	57,531	92·20	7·80
31st March, '55–64	62,674	6,600	69,274	90·47	9·53
„ '65–74	65,234	7.184	72,418	90·08	9·92
„ '75–84	73,847	8,303	82,150	89·89	10·11
„ '85–94*	84,346	8,957	93,303	90·40	9·60

* The figures for 1889–94 include the amounts of revenue collected by Imperial officers, which are assigned to local authorities.

ABLE IV.—*Population, Revenue, Expenditure and Debt of Great Britain and Ireland,* 1800.

	Great Britain.	Ireland.	Total.	Per Cent. of Total.	
				Great Britain.	Ireland.
pulation (estimated)	10,500,000	5,000,000	15,500,000	67·7	32·3
venue	31,585,000*l.*	3,018,000*l.*	34,603,000*l.*	91·3	8·7
„ per head of population	3*l.* -*s.* 2*d.*	12*s.* 1*d.*	2*l.* 4*s.* 8*d.*	—	—
penditure (including Sinking Fund charges)	55,611,000*l.*	6,855,000*l.*	62,466,000*l.*	89·0	11·0
bt—					
(1) Nominal Amount (funded and unfunded)	446,594,145*l.*	28,541,157*l.*	475,135,302*l.*	94·0	6·0
Unexpired annuities	*1,781,405l.*	*119,094l.*	*1,900,499l.*	—	—
(2) Annual Charge for Interest, Sinking Fund, and Management of Debt	21,369,790*l.*	1,232,532*l.*	22,602,322*l.*	94·5	5·5

Note.—The finances are for the financial year, which did not correspond exactly in Great ritain and Ireland.

TABLE V.—*Increases made to the Nominal Amounts of Funded and Unfunded Debt, charged against Great Britain and Ireland in the Sixteen Years ending January,* 1817.

Year ending January.	Great Britain.	Ireland.	Total.	Per Cent. of Total.	
				Great Britain.	Ireland.
	£	£	£		
1801	446,594,145	28,541,157	475,135,302	94·0	6·0
'17	737,422,469	112,684,773	850,107,242	86·7	13·3
Increase....................	290.828,324	84,143,616	374,971,940	—	—
Per cent.	65·1	294·8	78·9	—	—

TABLE VI.—*Various Tests of the Comparative Resources of Great Britain and Ireland in* 1864.

Year.	Basis of Proportion.	Great Britain.	Ireland.	Total.	Per Cent. of	
					Great Britain.	Irel
		Tons.	Tons.	Tons.		
1861–63 (avge.)	Tonnage of Foreign Trade	25,719,623	903,658	26,623,281	96·6	
1863	Tonnage of Coasting Trade	22,756,160	336,576	23,092,736	98·5	
1861–63 (avge.)	Total Tonnage entering and leaving both Countries	31,580,306	6,764,341	38,344,647	82·4	
"	Tonnage of Vessels belonging to both Countries	4,700,736	248,410	4,949,146	95·0	
		£	£	£		
1862–64	Property assessed to Income Tax	299,139,167	23,293,939	322,433,106	92·8	
'62–63	Accumulated Deposits in Savings Banks..............	38,407,264	2,071,523	40,478,787	94·9	
'54–63	Post Office Money Orders issued	123,172,981	8,927,380	132,100,361	93·2	
'63	Gross Railway Receipts	29,557,511	1,518,654	31,076,165	95·1	
'61–63 (avge.)	Payments on account of Death Duties	3,452,667	212,895	3,665,562	94·2	
1863–64	Gross Ordinary Revenue	61,637,634	6,477,666	68,115,300	90·5	
At time of Union.	Mean of proportions of average Imports and Exports, and of average value of dutiable articles consumed................	—	—	—	88·24	

TABLE VII.—*Showing the true Revenue of Great Britain and Ireland respectively in* 1819-20 *and* 1892-93.

Heads of Revenue.	1819-20.			1892-93.		
	Great Britain.	Ireland.	Total.	Great Britain.	Ireland.	Total.
1. *Indirect taxes* £	34,493,000	3,837,000	38,330,000	40,442,000	5,264,000	45 706,000
Proportion per cent.	89·99	10·01	100	88·48	11·52	100
Per head of population	2*l*. 10*s*. 1*d*.	11*s*. 3*d*.	1*l*. 17*s*. 3*d*.	1*l*. 4*s*. 2*d*.	1*l*. 2*s*. 9*d*.	1*l*. 4*s*.
2. *Direct taxes* £	15,058,000	1,072,000	16,130,000	34,306,000	1,467,000	35,773,000
Proportion per cent.	93·35	6·65	100	95·90	4·10	100
Per head of population	1*l*. 1*s*. 11*d*.	3*s*. 2*d*.	15*s*. 8*d*.	1*l*. –*s*. 6*d*.	6*s*. 3*d*.	18*s*. 9*d*.
3. *Total tax revenue* £	49,551,000	4,909,000	54,460,000	74,748,000	6,731,000	81,479,000
Proportion per cent.	90·99	9·01	100	91·74	8·26	100
Per head of population	3*l*. 12*s*.	14*s*. 5*d*.	2*l*. 12*s*. 11*d*.	2*l*. 4*s*. 8*d*.	1*l*. 9*s*.	2*l*. 2*s*. 9*d*.
4. *Non-tax revenue* £	1,934,000	289,000	2,223,000	13,707,000	913,000	14,620,000
5. TOTAL REVENUE £	51,485,000	5,198,000	56,683,000	88,455,000	7,614,000	96,099,000
Proportion per cent.	90·83	9·17	100	92·05	7·95	100
Per head of population	3*l*. 14*s*. 10*d*.	15*s*. 3*d*.	2*l*. 15*s*. 1*d*.	2*l*. 12*s*. 10*d*.	1*l*. 12*s*. 11*d*.	2*l*. 10*s*. 5*d*.
Population (1819 and 1892)	13,765,000	6,802,000	20,567,000	33,469,000	4,638,000	38,107,000
Proportion per cent.	66·93	33·07	100	87·83	12·17	100

ABLE VIII.—*Showing True Revenue of Great Britain and Ireland respectively in* 1892-9 *under its Principal Heads.*

[Parliamentary Paper No. 334 of 1893.]

Heads of Revenue.	Net Revenue.		Percentage.		Per Head of Population (Middle of 1892).					
	Great Britain.	Ireland.	Great Britain.	Ireland.	Great Britain.			Ireland.		
(*a*.) TAX REVENUE.	£	£			£	*s.*	*d.*	£	*s.*	*d.*
I. *Customs.*										
Cocoa, &c., chicory, and coffee ...	316,000	26,000	92·32	7·68	–	–	2·3	–	–	1·4
Dried fruits	303,000	42,000	87·82	12·18	–	–	2·2	–	–	2
Foreign spirits—										
Exchequer revenue	3,757,000	335,000								
Local taxation revenue	181,000	16,000								
	3,938,000	351,000	91·82	8·18	–	2	4	–	1	6
Tea	2,923,000	476,000	86·00	14·00	–	1	9	–	2	1
Tobacco	8,727,000	1,397,000	86·20	13·80	–	5	3	–	6	-
Wine	1,167,000	101,000	92·00	8·00	–	–	8·4	–	–	5
Other articles	43,000	6,000	87·86	12·14	–	–	0·3	–	–	0
Total customs	17,417,000	2,399,000	87·89	12·11	–	10	5	–	10	4
II. *Excise.*										
Spirits—										
Exchequer revenue	13,151,000	2,134,000								
Local taxation revenue	659,000	107,000								
	13,810,000	2,241,000	86·04	13·96	–	–	3	–	9	8
Beer—										
Exchequer revenue	8,846,400	599,000								
Local taxation revenue	369,000	25,000								
	9,215,000	624,000	93·66	6·34	–	5	6	–	2	8
Licences, railway duty, &c.—										
Exchequer revenue	359,000	194,000								
Local taxation revenue	3,434,000	—								
	3,793,000	194,000	95·13	4·87	–	2	3	–	–	10
Total excise	26,818,000	3,059,000	89·76	10·24	–	16	–	–	13	2
III. *Stamps.*										
Probate duty—										
Exchequer revenue	2,258,000	100,000								
Local taxation revenue	2,257,000	100,000								
	4,515,000	200,000	95·78	4·22	–	2	8	–	–	10
Estate, legacy, and succession duty	5,663,000	289,000	95·14	4·86	–	8	5	–	1	3
General stamps	5,193,000	221,000	95·92	4·08	–	3	1	–	–	11
Total stamps	15,371,000	710,000	95·58	4·42	–	9	2	–	3	-

TABLE VIII.—*True Revenue of Great Britain and Ireland in* 1892-93—*Contd.*

Heads of Revenue.	Net Revenue.		Percentage.		Per Head of Population (Middle of 1892).					
	Great Britain.	Ireland.	Great Britain.	Ireland.	Great Britain.			Ireland.		
	£	£			£	s.	d.	£	s.	d.
V. *Land Tax and House Duty.*	2,436,000	—	100·00	—	–	1	5	Nil		
V. *Income Tax.*										
hedules A and B	4,016,000	269,000	93·72	6·28	–	2	5	–	1	2
,, C ,, D	7,894,000	252,000	96·91	3·09	–	4	9	–	1	1
hedule E	796,000	42,000	94·96	5·04	–	–	5·7	–	–	2
Total income tax	12,706,000	563,000	95·76	4·24	–	7	8	–	2	5
Total tax revenue	74,748,000	6,731,000	91·74	8·26	2	4	8	1	9	–
(*b.*) NON-TAX REVENUE.										
st office	9,745,000	599,000	94·21	5·79	–	5	10	–	2	7
legraphs	2,351,000	136,000	94·53	5·47	–	1	5	–	–	7
own lands	390,000	40,000	90·70	9·30	–	–	2·8	–	–	2·1
iscellaneous	1,221,000	138,000	89·85	10·15	–	–	8·8	–	–	7·1
Total non-tax revenue	13,707,000	913,000	93·76	6·24	–	8	2	–	3	11
Aggregate total of revenue	88,455,000	7,644,000	92·05	7·95	2	12	10	1	12	11
Total exchequer revenue	81,554,000	7,396,000								
Total local taxation revenue	6,901,000	248,000								

IV.—*The British Harvest of* 1894.

[THE following statistics are taken from the *Journal of the Board of Agriculture*, vol. i, No. 3, March, 1895.]

WHEAT.

	Estimated Total Produce.		Estimated Yield.		Average Yield, 1885-94.
	1894.	1893.	1894.	1893.	
	Bshls.	Bshls.	Bshls. per acre.	Bshls. per acre.	Bshls. per acre.
England	56,088,000	46,429,000	30·7	25·8	29·3
Wales	1,420,000	1,205,000	25·1	22·1	23·3
Scotland	1,665,000	1,613,000	37·1	36·6	35·3
Great Britain	59,173,000	49,247,000	30·7	25·9	29·3

BARLEY.

	Estimated Total Produce.		Estimated Yield.		Average Yield, 1885-94.
	1894.	1893.	1894.	1893.	
	Bshls.	Bshls.	Bshls. per acre.	Bshls. per acre.	Bshls. per acre.
England	61,194,000	49,033,000	34·6	28·0	33·1
Wales	3,348,000	2,803,000	30·0	25·1	28·0
Scotland	7,753,000	7,700,000	35·5	36·4	35·3
Great Britain	72,295,000	59,536,000	34·5	28·7	33·0

OATS.

England	88,289,000	67,164,000	44·6	35·1	40·6
Wales	9,013,000	7,452,000	35·9	30·9	32·6
Scotland	38,161,000	38,271,000	37·3	37·6	35·6
Great Britain	135,463,000	112,887,000	41·6	35·6	38·2

POTATOES.

	Tons.	Tons.	Tons per acre.	Tons per acre.	Tons per acre.
England	1,975,000	2,362,000	5·8	6·6	5·9
Wales	186,000	232,000	5·5	6·6	5·6
Scotland	628,000	882,000	4·8	6·4	5·6
Great Britain	2,789,000	3,476,000	5·5	6·6	5·8

HAY FROM CLOVER AND ROTATION GRASSES.

	Tons.	Tons.	Cwts.	Cwts.	Cwts.
England	2,524,000	1,248,000	32·4	16·7	28·1
Wales	233,000	126,000	27·4	14·9	23·1
Scotland	691,000	544,000	35·1	28·5	30·7
Great Britain	3,448,000	1,918,000	32·5	18·7	28·2

HAY FROM PERMANENT GRASS.

England	6,121,000	2,189,000	29·3	12·1	24·3
Wales	569,000	268,000	22·3	10·7	18·2
Scotland	252,000	224,000	31·0	27·2	28·9
Great Britain	6,942,000	2,681,000	28·6	12·6	23·9

V.—*Fires in London and the Metropolitan Fire Brigade in* 1894.

THE following particulars are taken from the Report of the Chief Officer, Mr. J. Sexton Simonds, to the Fire Brigade Committee of the London County Council, in continuation of similar notices for previous years:—

"The number of calls for fires, or supposed fires, received during the year has been 4,111. Of these 845 were false alarms, 205 proved to be only chimney alarms, and 3,061 were calls for fires, of which 151 resulted in serious damage, and 2,910 in slight damage.

"These figures only refer to calls which involved the turning out of firemen, fire engines, fire escapes, &c. They do not include ordinary calls for chimneys on fire, which are separately accounted for further on.

"The fires of 1894, compared with those of 1893, show a decrease of 349; or compared with the average of the past ten years, an increase of 521.

"The following table gives the actual number of fires and percentages since the year 1866:—

Year.	Number of Fires.			Percentages.		
	Serious.	Slight.	Total.	Serious.	Slight.	Total.
1866	326	1,012	1,338	25	75	100
'67	245	1,152	1,397	18	82	100
'68	235	1,433	1,668	14	86	100
'69	199	1,373	1,572	13	87	100
'70	276	1,670	1,946	14	86	100
'71	207	1,635	1,842	11	89	100
'72	120	1,374	1,494	8	92	100
'73	166	1,382	1,548	11	89	100
'74	154	1,419	1,573	10	90	100
'75	163	1,366	1,529	11	89	100
'76	166	1,466	1,632	11	89	100
'77	159	1,374	1,533	10	90	100
'78	170	1,489	1,659	10	90	100
'79	159	1,559	1,718	9	91	100
'80	162	1,709	1,871	9	91	100
'81	167	1,824	1,991	8	92	100
'82	164	1,762	1,926	9	91	100
'83	184	1,960	2,144	9	91	100
'84	194	2,095	2,289	9	91	100
'85	160	2,110	2,270	7	93	100
'86	151	1,998	2,149	7	93	100
'87	175	2,188	2,363	7	93	100
'88	121	1,867	1,988	6	94	100
'89	153	2,185	2,338	7	93	100
'90	153	2,402	2,555	6	94	100
'91	193	2,699	2,892	7	93	100
'92	177	2,969	3,146	6	94	100
'93	180	3,230	3,410	5	95	100
'94	151	2,910	3,061	5	95	100

Average for Ten Years.

1884–93	166	2,374	2,540	6·5	93·5	100
'94	151	2,910	3,061	4·9	95·1	100

"The number of fires in the metropolis in which life has been seriously endangered during the year 1894 has been 141, and the number of these in which life has been lost has been 73.

"The number of persons whose lives have been seriously endangered by fire is 204. Of these 122 were saved and 82 lost their lives. Of the 82 lost, 56 were taken out alive, but died afterwards in hospitals or elsewhere, and 26 were suffocated or burned to death. In addition to these cases 116 persons are known to have been in more or less jeopardy at fires attended by the brigade during the year. The total number of persons whose lives have been endangered must not be compared with years prior to 1892, when cases in which persons had been slightly burned on face or hands, or had received cuts from glass, &c., were included.

"It may be of interest to record the causes of fires in which lives have been lost during the year. In 27 cases mineral oil lamps exploding or being upset have caused 32 deaths, 6 children have lost their lives through playing with fire or matches, 4 deaths have been caused by candles, 2 by clothes coming in contact with fires in grates, 2 by sparks from fires, 1 by light thrown down, 1 by intoxication, 1 by vapour of spirit becoming ignited, 1 by a fire at a xylonite factory, and 2 by explosion of domestic boilers during the severe frost in the beginning of the year. In 26 cases, in which 30 lives were lost, the causes could not be ascertained.

* * * * *

"The number of calls for chimney fires has been 1,524. Of these 452 proved to be false alarms, and 1,072 were for chimneys on fire. In these cases there was no attendance of engines, but only of firemen with hand-pumps.

"The total number of calls during the year, including those for actual fires, supposed fires, chimney fires, and supposed chimney fires, has been 5,635, or nearly 16 a day, all of which have been attended by firemen with suitable appliances.

"Of the 845 false alarms received during the year, 384 have been malicious calls sent through the fire alarm call posts. In eleven cases the persons who gave the alarm were caught and punished, and 10 persons were detected in the act of breaking the glass in the call points.

"It is to be hoped that the number of these malicious alarms will still further decrease as the power of magistrates to inflict fines up to 20*l.*, with imprisonment in default of payment, becomes more generally known. This power was given in August, 1893, under the London County Council (General Powers) Act, 56 and 57 Vict.

"The total number of attendances with horsed-engines at fires, or supposed fires, has been 11,090. This number includes the cases in which engines have been ordered to stand by without being sent on.

"The number of journeys made by the fire engines and hose vans of the brigade has been 34,013, and the total distance run has been 69,085 miles. These figures do not include hose carts and escapes, which are run by hand.

"The quantity of water used for extinguishing fires in the metropolis during the year has been over 48 million gallons, or nearly 215,000 tons. Of this quantity, about half was taken from the river, canals, and docks, and the remainder from the street pipes. The large quantity of water used is to a great extent accounted for by the number of serious fires which have occurred in forage stores.

"During the year there have been 6 cases of late attendance of turncocks, and 3 of short supply of water, making 9 cases in which the water arrangements were not altogether satisfactory.

"There has been latterly a marked decrease in the number of cases in which the water arrangements at fires were unsatisfactory. Only five years ago the number of cases was 28, whilst ten years ago it was as high as 43.

"In addition to attending fires, the brigade has kept 170,000 watches of twelve hours each, has made 92,000 hydrant inspections, and 108,000 fire plug tablet inspections, has maintained all the machinery and appliances of the establishment in working order, written many thousand reports and letters, and carried on a variety of other work.

"The strength of the brigade to-day is as follows:—

57 land fire engine stations.
4 floating or river „
56 hose cart stations.
7 „ and ladder truck stations.
200 fire escape stations.
9 steam fire engines on barges.
51 land steam fire engines.
78 six-inch manual fire engines.
17 under six-inch manual fire engines.
1 hose tender and escape.
9 „ and ladder trucks.
116 „ carts and reels.
35 miles of hose.
8 steam tugs.
13 barges.
12 skiffs.
225 fire escapes.
7 long fire ladders.
9 ladder vans.
2 trucks with ladders.
2 trollies for engines.
12 hose and coal vans.
6 traps for visiting.
1 stores van.
5 waggons for street duties.
10 street stations.
148 watch boxes.
791 firemen, including chief officer, second officer, superintendents, and all ranks, being 1 man short.
20 men under instruction.
16 pilots.
75 coachmen.
137 horses.
81 telephone lines between fire stations.
57 alarm circuits round fire stations, with 565 call points.
20 telephones to police stations.
1 telegraph } to public and other
81 telephones } buildings.
7 bell-ringing fire alarms to public and other buildings.
1 speaking tube to public and other buildings.

"Of the additional duties authorised by the Council on the 29th of May, the following have been commenced:—

5 duties with hose carts and escapes or hose and ladder trucks.
3 „ „ at existing escape duties.
15 „ escapes only.

"The duties at St. Clement Danes, Strand, St. James' Church, Bermondsey, Vauxhall Cross, and Streatham, which were formerly done by night only, are now done by day and night.

"A temporary duty by day and night, with a hose and ladder truck, is now being done at North Woolwich, pending the establishment of a sub-station.

"The duty with a hose cart by night at St. Dunstan's Church, Fleet Street, has been discontinued.

"A steam fire engine has been added to each of the following stations: St. John's Wood, Bethnal Green, Isle of Dogs, and West Norwood; and one has been ordered for the Notting Hill station, where, however, certain alterations are required before it can be placed there.

"I hope to be able to commence by the 31st March next all the sub-stations and the remaining street stations which were authorised by the Council in May.

"The number of firemen employed on the several watches at the stations and with the various appliances of the brigade distributed throughout the metropolis is at present 111 by day and 359 by night, making a total of 470 in every twenty-four hours. The average number of men available for general work at fires by night is 360.

"The number of accidents to members of the brigade recorded during 1894 is 115. I am deeply thankful at again being able to report that none of these have been fatal, a result which is, I feel, due in a great measure to the care exercised by the officers serving under me.

* * * * *

"The signalling apparatus in connection with the telephone wires, to which I referred in my last report as having been established in the A district, has now been extended to each of the other districts, and the telephones at all the superintendents' stations are also now re-arranged on the cabinet system.

"On the 5th of April the men attached to the D floating station removed from the lodgings they had previously occupied into the barracks which had been built for them in Cherry Garden Street, and at the same time the watch duty was transferred from Cherry Garden Pier to the watch room in the new buildings. A hose and ladder truck is now stationed at the barracks, with which the man on duty attends any fires in the immediate neighbourhood to which he may be called. This is not included in the seven duties enumerated under the strength of the brigade.

"The superintendent's station for the D district, which the Council, in July, 1889, authorised to be built at New Cross, was opened on the 16th of June. In connection with this station the street station duty at Commercial Road, the hose cart and escape duty at Nunhead, and the escape duty at Queen's Road, 12 firemen, 1 coachman, 2 horses, and 1 steam fire engine were added to the strength of the brigade.

"The number of men who have been struck off the strength of the brigade during the year is 48, of which 2 died in the service, 3 were invalided, and 11 were pensioned, having completed twenty-eight years' service. 113 men have been taken on and trained during the year.

"The work involved in establishing a large number of additional duties has more than counterbalanced the slight reduction of labour in attending fires, and I think I am justified in saying that the energies of the brigade have been more severely taxed than in any previous year. At the same time I am happy in being able to say that the arduous work devolving upon them has been cheerfully and willingly performed by all members of every rank.

"The discipline of the brigade at the present time is quite satisfactory.

"Feeling that the information conveyed in the term 'serious' fires is very vague, I have this year added to the tables in my report one giving a brief outline of the nature of each fire classed by me as serious. I regret that it is out of my power to give even an approximate idea of the money value of the losses sustained at fires attended by the brigade."

* * * * *

The following particulars are obtained from the tables appended to the report, viz.: fires classified according to occupations, arranged in the order of frequency of occurrence; to which are added, for the purpose of comparison, the corresponding figures for the three previous years:—

Number.	Occupations.	Number of Fires.			
		1894.	1893.	1892.	1891.
1	Private houses	851	817	749	718
2	Lodgings	596	661	547	451
3	Victuallers	82	80	68	82
4	Grocers	54	44	65	44
5	Confectioners and pastrycooks	46	41	36	32
6	Greengrocers and fruiterers	45	45	38	45
7	Drapers	44	33	32	30
8	Boot and shoe makers	43	52	51	47
9	Unoccupied	39	62	46	49
10	Builders	39	44	41	34
11	Oil and colourmen	39	34	53	36
12	Commons, roads, and open spaces	34	77	—	—
13	Tailors, clothiers, and outfitters	31	61	43	43
14	Coffee houses	31	35	44	28
15	Hairdressers	30	26	25	10
16	Printers and publishers	29	32	30	36
17	Under repair and building	27	44	44	33
18	Refreshment rooms	26	29	16	18
19	Tobacconists	26	28	20	29
20	Chandlers	26	14	26	31
21	Engineers and machinists	25	33	14	34
22	Butchers	24	18	23	15
23	Laundries	24	20	22	19
24	Furniture makers and dealers	23	25	24	21
25	Bakers	22	33	34	34
26	Fried fish shops	22	21	19	10
27	Offices	21	29	45	35

Number.	Occupations.	Number of Fires.			
		1894.	1893.	1892.	1891.
28	Cabinet makers	20	27	24	32
29	Booksellers, binders, and stationers	19	24	19	24
30	Stables	16	40	39	26
31	Provision merchants	16	17	15	10
32	Coal and coke merchants	16	9	10	7
33	Railways	15	24	26	16
34	Wardrobe dealers	15	21	8	13
35	Chemists	14	17	13	16
36	Hotels (including club houses)	14	14	20	13
37	Warehouses	13	13	17	26
38	China, glass, and earthenware dealers	13	13	8	11
39	Carriers	12	15	11	10
40	Schools	11	15	10	11
41	Milliners and dressmakers	11	11	19	15
42	Waggons on the road	11	7	13	7
43	Churches and chapels	10	12	8	7
44	Hosiers	10	7	5	7
45	Remainder	526	686	726	677
		3,061	3,410	3,146	2,892

Fires classified under the causes to which they have been assigned, and arranged in the order of frequency of occurrence:—

	Causes.	Number of Fires.
1.	Unknown and doubtful	868
2.	Lamps (not gas) and lights thrown down	775
3.	Gas in various ways	258
4.	Sparks from fires, &c.	200
5.	Defective or improperly set flues, hearths, stoves, &c.	170
6.	Candles	157
7.	Children playing with fire, matches, &c.	132
8.	Overheating of flues, ovens, furnaces, boilers, &c.	94
9.	Hot ashes	88
10.	Airing linen and drying stoves	62
11.	Boiling over, or upsetting of fat, pitch, &c.	53
12.	Foul flues, &c.	30
13.	Overheating of portable gas stoves, &c.	26
14.	Mineral oil stoves, explosion, &c., of	23
15.	Lime slaking by rain and otherwise	17
16.	Smoking tobacco	14
17.	Lucifer matches	12
18.	Vapour of spirit in contact with flame	12
19.	Burning rubbish	12
20.	Plumbers at work	8
21.	Lighted taper	8
22.	Fumigating	5
23.	Clothes coming in contact with fire	4
24.	Spontaneous ignition	4
25.	Explosion of boiler	4
	Miscellaneous, varying from 3 to 1	25
	Total	3,061

VI.—*English Literature in* 1894.

THE following particulars are taken from the *Publishers' Circular* of the 5th January, 1895, in continuation of a series of similar extracts for previous years:—

"A comparative glance at the tables of books published during the years 1893 and 1894 shows, in theology and exposition of the Bible, a slight increase for the past year. In educational works the number for 1894 is nearly 15 per cent. above that of the preceding year. In juvenile works we have the seemingly extraordinary record of 400 publications less for the past year. On the other hand novels show 400 more issues for the same period. The truth is that from the mere title it is frequently impossible to tell whether a work of fiction is intended for the young or not. Moreover so-called juvenile works are nowadays so well written that often they suit older readers quite as well as those for whom they are primarily intended. We form, therefore, the truest estimate by adding the figures for novels and for juvenile works together, with the result that the number published is found to be nearly identical in the years 1893 and 1894. In law the books published in 1894 far exceed those for 1893. The same may be said of works in political economy, social science, &c. In arts, illustrated works, &c., there is no increase to record. Voyages, travels, and geographical works present much the same record for the two years. This is also the case with biography and history. Poetry shows a slight decline in number, as also do year-books. In medicine the numbers for 1893 and 1894 are very nearly the same. The department of *belles-lettres* shows a notable increase.

"The analytical table is divided into fourteen classes; also new books and new editions.

Divisions.	1893.		1894.	
	New Books.	New Editions.	New Books.	New Editions.
Theology, sermons, biblical, &c.	459	74	476	80
Educational, classical, and philological	518	104	615	127
Juvenile works and tales	659	36	269	29
Novels, tales, and other fiction	935	393	1,315	337
Law, jurisprudence, &c.	27	23	126	23
Political and social economy, trade and commerce	71	14	141	21
Arts, sciences, and illustrated works	86	37	98	30
Voyages, travels, geographical research	247	72	282	68
History, biography, &c.	269	65	256	58
Poetry and the drama	197	37	160	21
Year-books and serials in volumes	370	1	328	2
Medicine, surgery, &c.	93	58	97	59
Belles-lettres, essays, monographs, &c.	96	11	370	115
Miscellaneous, including pamphlets, not sermons	1,102	328	767	215
	5,129	1,253	5,300	1,185
	6,382		6,485	

Analytical Table of Books Published in 1894.

Subjects.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total o Books on e Subject for the Y
Theology, sermons, biblical	* 43	27	34	42	40	21	26	15	50	52	67	59	476
	† 9	14	6	6	7	5	2	4	6	6	8	7	80
Educational, classical, and philological	* 43	43	52	51	51	60	37	25	59	59	66	69	615
	† 14	9	10	8	8	12	8	7	9	12	13	17	127
Juvenile works and tales	* 3	4	2	3	12	4	2	6	69	53	64	47	269
	† 1	1	—	1	3	4	—	1	13	—	2	3	29
Novels, tales, and other fiction	* 77	90	124	98	119	110	68	53	145	160	158	113	1,315
	† 15	29	26	16	25	37	26	16	48	36	47	16	337
Law, jurisprudence, &c.	* 1	3	4	2	6	4	5	—	2	5	3	91	126
	† 1	3	3	1	3	—	2	1	3	1	2	3	23
Political and social economy, trade and commerce	* 7	2	6	17	15	16	6	4	6	16	28	18	141
	† —	—	3	1	4	—	—	—	2	—	8	3	21
Arts, science, and illustrated works	* 4	4	17	7	10	11	4	5	8	10	13	5	98
	† 1	4	3	5	1	1	1	—	3	5	3	3	30
Voyages, travels, and geographical research................	* 18	10	15	8	27	36	19	18	18	35	49	29	283
	† 5	3	4	5	2	6	8	6	13	3	8	5	68
History, biography, &c.........................	* 18	13	30	12	18	16	13	10	23	34	40	29	256
	† —	4	5	2	2	7	1	3	6	11	4	13	58
Poetry and the drama	* 8	12	13	11	13	19	9	6	—	13	26	25	160
	† 2	2	1	3	2	1	1	1	3	1	—	4	21
Year - books and serials in volumes	* 61	25	33	19	11	15	16	7	19	34	27	61	328
	† 1	—	—	—	—	—	—	—	—	—	—	1	2
Medicine, surgery, &c.........................	* 8	7	10	5	4	11	3	3	3	19	15	9	97
	† 6	4	3	12	1	5	3	2	6	9	4	4	59
Belles-lettres, essays, monographs, &c.	* 20	16	27	21	30	31	15	15	32	41	60	62	370
	† —	1	3	1	2	4	2	1	3	3	90	5	115
Miscellaneous, including pamphlets, not sermons............	* 52	63	85	62	55	88	42	40	56	78	72	74	767
	† 16	29	25	19	16	15	15	6	19	19	14	22	215
	434	422	544	438	487	539	334	255	629	715	891	797	

* New books. † New editions.

VII.—*Notes on Economical and Statistical Works.*

Papers and Addresses. By Lord Brassey. London: Longmans, Green and Co., 1894.

The four volumes before us contain in a collected shape various speeches delivered, and articles and letters written, on topics of public interest, on which the author is recognised as an authority of deservedly high standing. Of the four, the readers of this *Journal* will be mainly interested in that which bears the sub-title of *Work and Wages.* The other three are concerned with naval and maritime affairs, and will probably be more attractive to specialist experts, and to the general public. The latter, indeed, will also read with no little pleasure and instruction the volume on *Work and Wages;* for Lord Brassey brings to bear on the various matters which he handles the shrewd judgment and sober sense of a man closely conversant with the needs of practical business and with public affairs. He also enjoys the peculiar advantage of an intimate acquaintance with the results of the experience—almost unrivalled—of his father, who, as a railway contractor, was brought into intimate contact with workmen of many different nationalities and varied capacities. Indeed the author of the present volume may be considered to have helped to originate an idea, which has now almost taken its place as an accepted axiom of economic polemics, and, like most doctrines, which, once neglected, have afterwards won recognition, seems in some danger of being pushed to extravagance, and used to support conclusions which it does not really warrant—the idea, namely, that high wages do not imply a high cost of production, but rather the reverse. Still, as Lord Brassey has stated the matter, it is simply the result of a wide practical experience, and, so long as the axiom is confined to the proved results of that experience, it cannot be held responsible for untrue or extravagant deductions. It is in such a shape that it appears in the first chapter of the volume before us. In the other chapters most of the topics of present interest in industrial economics are taken up and treated with candour and common sense. Trade Unions, Co-operative Production, Foreign Competition, Agricultural Depression (which formed the subject of Lord Brassey's Presidential Address to this Society), Conciliation and Arbitration, are among these topics, and the papers range over a period of some twenty-five years, the first being a speech delivered in the House of Commons in 1869, and the last, the twentieth in the volume, an address to the Wolverhampton Chamber of Commerce in 1893. As the author says, "a year has rarely passed without calls for addresses on Labour questions. Such appeals have been generally obeyed. It has always been sought to give practical advice, and to plead for a generous recognition of the merits of the British workman." The candid and generous tone thus indicated will attract the economic student to the perusal of these papers, and they will also serve, as Mr. Howell points out in an interesting introduction, to measure the space over which public opinion has travelled during the last quarter of a century. Unless from time to time such books as these appeared as a reminder, it would be scarcely possible to realise the distance which has thus been compassed; but some of Lord Brassey's opinions, which seem to have been regarded as startling, if not inadmissible, novelties, when they were first uttered, will now perhaps be accepted, or even dismissed, as commonplace truisms. For so salutary a change Lord Brassey, and men of similar minds and character, may fairly claim to be largely responsible.

Statement exhibiting the Moral and Material Progress and Condition of India during the Year 1891-92 *and the Nine preceding Years.* London: Eyre & Spottiswoode, 1894.

In this important periodic publication is contained a vast amount of material for the profitable study of the economist and the statistician, and it is only possible in a summary notice like the present to give some indication of the main headings into which the book is divided, and of the particular changes by which it differs from previous publications of the same character. For the preparation of the present statement Mr. J. A. Baines is responsible, to whom this Society is indebted for instructive information on the Indian Census, and the decade brought under review ends with 1891-92 instead of, as formerly, with 1872-73 and 1882-83, in order to establish a nearer coincidence with the interval between one census and another, the last census having been taken in February, 1891. In "general outline" the last Decennial Statement has been followed, but on the one hand maps have been omitted and parts of the historical preludes curtailed, and on the other "chapters have been added relating to the Army and Indian Marine, to Vital Statistics, Sanitation and Surveys, and a concluding Summary is given of the factors involved in the general condition of the masses, and their relative development and importance in the present day." The statement accordingly consists now of twenty-one chapters, and is as comprehensive as it is authoritative. In the first chapter the area and population are shown, in the second the frontiers and the protected States are described, in the third a review is furnished of the general administration, in the fourth of law and legislation, in the fifth of municipal and local administration. The character and statistics of litigation and crime, of police and prisons, the provisions as to the registration of deeds and documents, and the military and naval arrangements and statistics are next exhibited. In the tenth chapter the pressing and troublous question of finance is discussed, and in the following chapter the main sources of revenue are successively brought under review. With chapter xii we pass to Agriculture, with chapter xiii to Forests, and then to Mines and Factories, Trade and Commerce. The question of Public Works, which bulks so largely in Indian administration, is next reviewed, and we then proceed to Post Offices and Telegraphs, to Surveys, and in the two concluding chapters to Vital Statistics and Sanitation and Public Instruction. If it were only possible to convey to the mass of the English public a tithe of the information contained in this volume, it might serve to dispel not a few erroneous, if not mischievous, ideas; and it is at least certain that the student will find in it an inexhaustible mine of interest and instruction.

Tableau Économique. By François Quesnay. London: Macmillan and Co., 1894.

When the British Economic Association was founded, the republication from time to time of scarce economic works formed part of the scheme contemplated by its originators; but they could hardly have hoped for such good fortune as has befallen them in the case of the reprint before us, which constitutes their first venture in this direction. The *Tableau Économique* was described by Mirabeau as worthy to be ranked, together with the inventions of handwriting and money, as one of the three great inventions "which have principally given stability to political societies," and, although this eulogy may be attributed in part to the extravagant enthusiasm of an admirer, yet there can be no doubt that the effects of the conception set forth in the *Tableau*, regarded as part of a scheme of economic doctrine, have been very considerable, that it constituted a noteworthy advance on what had gone before, and that Adam Smith thought so highly of its author that he intended to dedicate to him his own immortal treatise. But, until recently, it was thought that the first edition of the *Tableau* had been lost beyond recovery; and the British Economic Association has now been enabled, through the instrumentality of Dr. Bauer, who, acting upon a hint hazarded by Dr. Stern of Zurich, discovered the lost document among the papers of Mirabeau in the Archives Nationales at Paris, to give to the economic world in the two hundredth year since the birth of Quesnay a reproduction in facsimile of the original copy, with Quesnay's manuscript notes in the margin. The reproduction has been carefully and successfully carried out, and the report will be valued by the bibliophile as well as the economist. We believe we are violating no secret when we say that the Association hopes to follow up this reprint with others as soon as the funds at its disposal permit, and we offer our congratulations on so happy a commencement of so useful and important a work.

Statistik und Gesellschaftslehre. Von Dr. Georg von Mayr. Erster Band. *Theoretische Statistik.* Freiburg und Leipzig: J. C. B. Mohr, 1895.

This book belongs to a series which is now being issued, and is intended to form a kind of encyclopædia of economics. To the competent hands of Dr. Mayr has been intrusted the important subject of Statistics in relation to Social Science. In the instalment of his work now before us we have the portion relating to the theory of statistics, and a succeeding and completing part is to be devoted to practical statistics. The appearance of volumes of this character makes us regret that we have as yet no counterpart in England—no systematic treatise, that is, dealing with the theory and practice of statistical science on a comprehensive scale. In default of such a work in our own tongue we are compelled to seek for a substitute in foreign languages, and we are fortunate in finding as the result of our search a book of the character of that before us. Dr. Mayr is acquainted with the various departments of his subject, and he has united them in a systematic treatment, which seems as excellently planned as it is admirably executed. He first begins with some general introductory matter on the broad aspects of the subject. He then passes in his second chapter to the common foundation on which varieties of statistical methods and inquiries ultimately rest. He next proceeds to a consideration of the methods and technique of statistics, the preparation and collection of the figures and their arrangement and interpretation when collected. With the following chapter we are introduced to a review of statistical administration, and in the course of this chapter the various foreign statistical bureaux and the International Statistical Institute are described. In the final chapter of the book Dr. Mayr gives a summary of the history of statistics, its early anticipations and its later improvements and developments. It will thus be seen that his account is very comprehensive; and we may note as an additional corroboration of the fulness and adequacy of his treatment, that the different stages of the argument are accompanied by an useful bibliography of authorities. The book will sustain the reputation which Dr. Mayr already enjoys.

The Labour Question. By T. G. Spyers. London: Swan, Sonnenschein and Co., 1895.

Those, who lack the courage to commence, or the perseverance to complete, the examination for themselves of the voluminous mass of literature issued by the recent Labour Commission, may usefully supplement the Report of the Commission itself by the little volume before us. Mr. Spyers acted as *précis* writer to the Commission; and he has here epitomised the evidence and the report. His task appears to have been conscientiously discharged, and his account to be generally accurate. He divides his epitome into three parts, in the first of which he deals with "industrial politics" under the headings of "the labour movement," "strikes and collective bargaining," and "conciliation and arbitration." To the second part he gives the title of "conditions of labour," and to the third that of "special subjects." The immense extent of ground covered by the Commission renders it difficult, without some such assistance as that afforded by Mr. Spyers, to obtain a comprehensive survey, and yet the student of economic phenomena can hardly with impunity allow himself to remain ignorant of so large and authoritative an account of the present condition of English industry (and especially of the burning question of preventing industrial conflict) as is to be discovered in the various publications of the Commission. He will therefore be ready to welcome Mr. Spyer's epitome as a substitute for detailed personal examination, or a reminder of what he has himself investigated and forgotten.

Reports on the Volume and Effects of Recent Immigration from Eastern Europe into the United Kingdom. London: Eyre and Spottiswoode, 1894.

The considerable interest taken in the question, and the prospect of proposals for actual legislation, render these reports, issued by the Board of Trade, very opportune. In them we possess an unbiassed and authoritative account of the ascertainable facts on a matter, where feeling runs high, and misconception is prevalent. In Mr. Willis's Statistical Report, the various figures available are brought into relation to one another, and the conclusion is reached that the total "number of aliens of all classes who arrived in this country, and may be taken to have remained, amounted in 1891 to about 12,000, in 1892 to 11,500, and in 1893 to rather less than 6,000," and that the "total number of the class with which the report was specially concerned, who arrived in London without through tickets to other countries, less those subsequently sent away by charitable agencies, was, in 1891, something over 700, in 1892 about 3,000, and in 1893 rather below this." These figures have to be added to the census returns to give the numbers for the present time. The number, therefore, is "still relatively small, although undoubtedly greater within the last few years," and London, and, to some extent, Manchester and Leeds, are the only places "materially affected." Mr. Willis's report is followed by a Memorandum from the Labour Department, which is divided into three parts. In the first the general character and effects of the influx are considered. In the second the industrial position of the immigrants in certain trades is examined, and in the third Miss Collet treats of foreign immigration in relation to women's labour. Her inquiries have been made in London, in Leeds, and in Manchester—the three places indicated by Mr. Willis as at present materially affected by the immigration.

Sir William Petty: a Study in English Economic Literature. By Wilson Lloyd Bevan. American Economic Association, 1894.

A notable feature of recent economic study has been the interest taken in the predecessors of Adam Smith, among whom the subject of this monograph is not the least important. Sir William Petty, however, is perhaps even more interesting to the readers of this *Journal* as the exponent of "political arithmetic." The author of the monograph is careful to point out the precise nature of Petty's claims to fame in both these respects, and he is not led away by admiration to neglect his statistical errors, or to underrate the improved, if not really new, form given by his great successor to some of his anticipations of later economic doctrine. An Introduction contains a bibliography of the printed works of Petty, and notes on the Petty manuscripts. In a following chapter the materials for Petty's biography are reviewed, and a reproduction given of one form of that biography. Illustrations and Notes on Petty's life drawn from contemporary sources succeed, and are followed by an analysis of his chief writings, beginning with those bills of mortality which occupy so prominent a place in the early statistical literature of this country. In a concluding chapter Mr. Bevan reviews the relation of Petty to contemporary England, and estimates his place in economic literature. He has evidently taken great pains to collect his information, much of which is of an interesting character, and his monograph will serve as an useful introduction or supplement to Lord Edmond Fitzmaurice's larger life, which has just been published in this country.

American Charities. By Amos G. Warner. New York: Thomas Y. Crowell and Co., 1894.

This book, which bears the sub-title of a "study in philanthropy and economics," forms part of a new library of economics and politics, which is being issued in America under the editorship of Professor Ely. The question of the administration and organisation of charity is certainly one of those subjects which are on the border-line between economics and politics: and Professor Warner has accorded in this book a systematic scientific treatment to a matter which belongs also, as he recognises, to the sphere of practical politics. In the first part of his book, which he entitles "introductory and theoretical," he discusses the relations between economics and philanthropy, and he notes the chief causes of poverty, and distinguishes between the personal and the social causes of individual degeneration. In the second part he supplies an useful account of the various organisations in America for dealing with the dependent classes. The almshouse, the relief of the poor at home, the unemployed, the dependent children, the destitute sick, the insane, and the feeble-minded, form the subjects of successive chapters; and in the third and concluding part he passes to the important topic of the proper financiering of philanthropy, whether the department concerned be that of private or of public charity.

Le Homestead aux Etats-Unis. Par L. Vacher. Paris: Guillaumin et Cie., 1895.

In this book, which has received the commendation of the French Academy, the author accords an exhaustive treatment to a social arrangement which, he holds, is, practically speaking, peculiar to the United States of America, although there are partial analogies in other countries. And yet it is an arrangement which, he remarks, has been adequately discussed neither in Europe, nor, from the economic side at least, in the United States themselves. It is the provision by which a certain portion of a man's real property is exempted from seizure for debt. M. Vacher discusses the origin of the provision, the history of its introduction, and of its legal recognition, the various conditions which apply to its exercise, the various questions which have been raised in its connection, and its advantages and drawbacks. He dismisses the theory that its origin may be traced to the feudal law, with its prevention of alienation. He shows how it attaches of right to the grants of the public domains in America, and how, by native Americans or by alien immigrants, it may be easily obtained in the case of property otherwise acquired. He has evidently made a full and careful study of the facts of the matter; and in the course of his treatment he is led to discuss incidentally other questions of interest connected with the acquisition and management of landed property in America, such as the possibilities of aggregation offered to speculators. He is inclined, in spite of certain drawbacks, to pass a favourable verdict upon the system as a whole, and his book will reward the attention of the economic student, who desires authoritative information about the arrangements of other countries in an important social matter.

Die neueste Steuerreform in den Niederlanden im Anschluss an die Finanzgeschichte des Landes seit der Verfassungsrevision im Jahre 1848. Von G. M. Boissevain.

English economic students, who concern themselves with the movement of affairs in foreign countries, will be aware that during the past few years an important scheme of fiscal reform has been carried into effect in Holland; and they will have been especially interested to note that the financial minister, who conceived and executed the scheme, was the eminent economist Professor Pierson. It is rarely the case—and this is one of the few examples—that theoretical ability is enabled to address itself to practical reform. The main drift of the reform was to transfer to the shoulders of the capitalist classes a larger proportion of the burden of taxation, and to relieve *pro tanto* the labouring classes. Direct taxation was to take the place of indirect, a substitution, which, indeed, was only in keeping with the historical tendencies of fiscal reform in the Netherlands. The main instrument of reform was the imposition of a slightly progressive tax upon all incomes derived from property and labour, and this revenue was to be used to lessen the excise, and a high tax which existed on the transfer of property. The income tax was divided into two categories, one imposed on the capital value of property, and the other levied upon incomes derived from other sources. Into the details of the changes it is impossible here to enter, but a careful and thorough examination of them, together with a review of the relations of these latest reforms to the history of the past half century, will be found in M. Boissevain's monograph. Readers of this *Journal* will not need to be assured of M. Boissevain's high qualifications for the task he has here essayed, and discharged successfully.

Statistical and Economical Articles in Recent Periodicals.

UNITED KINGDOM—

Economic Journal. Vol. iv, No. 16, *December*, 1894—

The new United States Tariff: *Prof. F. W. Taussig.* The Commercial Supremacy of Great Britain (Part II): *A. W. Flux.* Theory of International Values (Part III): *Prof. F. Y. Edgeworth.* The American Income Tax: *Prof. E. R. A. Seligman.* The Farm Labourers of Scotland and Ireland: *W. E. Bear.*

UNITED KINGDOM— *Contd.*

Economic Review. Vol. v, No. 1, *January,* 1895—

Co-operative Production: *H. W. Wolff.* Graduated Taxation: *J. G. Godard.*

UNITED STATES—

American Statistical Association Publications. Vol. iv, New Series, No. 27, *September,* 1894—

The Causes of Poverty further considered: *A. G. Warner.*

Annals of the American Academy of Political and Social Science—

Vol. v, No. 4, *January,* 1895—

Economics in Elementary Schools: *S. N. Patten.* Wieser's Natural Value: *D. I. Green.* Money and Bank Credits in the United States: *H. W. Williams.* How to save Bimetallism: *Duc de Noailles.*

Vol. v, No. 5, *March,* 1895—

Pacific Railway Debts: *R. T. Colburn.*

Journal of Political Economy. Vol. iii, No. 1, *December,* 1894—

State Railways in Australia: *W. Hill.* Nature of Sociology: *B. Moses.* Adequacy of the Customs-Revenue system: *R. F. Hoxie.* State aid to Railroads in Missouri: *J. W. Million.*

Political Science Quarterly. Vol. ix, No. 4, *December,* 1894—

The Tariff of 1894: *Prof. F. W. Taussig.* The Income Tax: *Prof. E. R. A. Seligman.* Assimilation of Nationalities (Part II): *Prof. R. Mayo-Smith.* Negro Suffrage in the South: *S. B. Weeks.* The New Belgian Constitution: *Prof. M. Vauthier.*

Quarterly Journal of Economics. Vol. ix, No. 2, *January,* 1895—

The Positive Theory of Capital and its Critics (Part I): *E. Böhm-Bawerk.* The Economists and the Public: *S. M. Macvane.* Study of a Typical Mediæval Village: *W. Warde Fowler.* The Concept of Marginal Rent: *J. H. Hollander.* Glasgow and its Municipal Industries: *W. Smart.* Social and Economic Legislation of the States in 1894: *W. B. Shaw.*

Yale Review. Vol. iii, No. 4, *February,* 1895—

Recent Reforms in Taxation: *E. R. A. Seligman.* The Farmer in American Politics: *Jesse Macy.* Industrial Conciliation and Arbitration: *E. R. L. Gould.*

FRANCE—

Annales de l'Ecole Libre des Sciences Politiques—

No. 6, *November,* 1894—

Une nouvelle réforme de l'administration locale en Angleterre: *O. Festy.* Condition juridique des navires de commerce dans les ports étrangers. L'avis du Conseil d'Etat du 20 Novembre, 1806, au point de vue de la théorie et de la pratique: *C$^{te.}$ M. Rostworowski* (*continued in next number*).

France—*Contd.*

Annales de l'Ecole Libre des Sciences Politiques—Contd.

No. 1, *January*, 1895—

La constitution Serbe. Ses origines, ses caractères, ses transformations (1835-94): *F. Morel.* L'Union monétaire au moyen d'une banque centrale universelle: *R.-G. Lévy.* Les chemins de fer d'intérêt local et le concours financier de l'Etat: *G. Baugnies.* L'évolution industrielle de l'Inde: *H. Brenier* (*conclusion*).

Journal des Economistes—

December, 1894—

L'Economie de l'histoire: *G. de Molinari* (*continued in February number*). L'Histoire de l'union monétaire Austro-Allemande de 1857: *A. Raffalovich.*

January, 1895—

1894: *G. de Molinari.* Le Marché financier en 1894: *A. Raffalovich.* La réforme du billet de banque aux Etats-Unis: *R. G. Lévy.* Les agrariens et l'agriculture en Allemagne: *P. Muller.*

February, 1895—

L'avenir de l'Europe: *F. Passy.* Malthus et la Statistique: *G. Flamingo.*

Journal de la Société de Statistique de Paris—

No. 12. *December*, 1894—

Le Dénombrement des étrangers en France (*conclusion*): *V. Turquan.* De la statistique des migrations intérieures, surtout en Allemagne: *Dr. von Mayr.*

No. 1. *January*, 1895—

Le Problème monétaire (*continued*): *F. de Flaix.*

No. 2. *February*, 1895—

Le coût de la vie à Paris à diverses époques: *G. Bienaymé.*

La Réforme Sociale—

No. 96. 16*th December*, 1894—

Les monts-de-piété et le trafic des reconnaissances: *M. Vanlaer.* Les systèmes de répartition des subventions dans les caisses de retraites patronales: *L. Marie and E. Cheysson.* La propriété aux ouvriers.—Etude sur la loi Belge de 1889, relative aux habitations ouvrières: *H. Delvaux.*

No. 97. 1*st January*, 1895—

La liberté commerciale en France aux xii^e^ et xiii^e^ siècles: *I. de la Tour.* La loi fédérale de l'homestead, et les lois particulières d'homestead exemption aux Etats-Unis: *E. Levasseur.*

No. 98. 16*th January*, 1895—

Des syndicats entre industriels pour régler la production en France: *C. Jannet.* Les mouvements intérieurs de la population en France: *V. Turquan* (*continued in Nos.* 100 *and* 101). Les mines et la petite épargne: *E. Delecroix.*

No. 99. 1*st February*, 1895—

Pourquoi nous ne sommes pas socialistes: *A. Leroy-Beaulieu.* L'usage de la liberté et le devoir social: *G. Picot.* L'Homestead en France: *E. Levasseur.*

FRANCE—*Contd.*

La Réforme Sociale—Contd.

No. 100. 16*th February*, 1895—

Le progrès social par l'initiative individuelle: *E. Rostand.*

No. 101. 1*st March*, 1895—

La loi sur les caisses de secours et de retraites des ouvriers mineurs: *Gruner.*

Revue d'Economie Politique—

No. 12. *December*, 1894—

Les Syndicats industriels: *C. Buecher.* Projet de modification du régime fiscal en matière de successions: *L.-L. Vauthier.* La réforme des droits de succession et la notion de l'impôt progressif: *Ch. Bodin.* Le Socialisme municipal: *V. Mataja (concluded in next number).*

No. 1, *January*, 1895—

De la mesure et des lois de la fécondité conjugale: *J. Körösi.* De l'influence des droits protecteurs sur la richesse nationale: *A.-A. Issaïev.* Démographie, édilité et administration de quelques grandes villes: *G. François.*

GERMANY—

Allgemeines Statistisches Archiv. III Jahrgang, 2 Halbband, 1894—

Ueber die Methode der Berechnung des gesellschaftlichen Vermögens aus der Erbschaftsstatistik: *Dr. C. A. V. Stuart.* Ueber die Grundlagen einer Statistik der Aufgebote: *H. Silbergleit.* Zur internationalen Finanzstatistik: *R. v. Kaufmann.* Zur Reform der Rückfallstatistik: *Dr. G. v. Mayr.* Ueber die Technik der Statistik der Arbeiterausstände in Italien: *Prof. Sitta.* Die neuzeitliche Entwicklung der volkswirtschaftlichen Verhältnisse in Dänemark, mit internationalen Ausblicken: *Dr. v. Juraschek.* Ergebnisse der bayerischen Armenstatistik: *Dr. oec. L. Rupprecht.* Die Lernmasse der höheren Schulen des Deutschen Reichs: *Dr. G. v. Mayr.*

Archiv für Soziale Gesetzgebung und Statistik. Band vii, Heft 4, 1894—

Zur Kritik des ökonomischen Systems von Karl Marx: *Prof. W. Sombart.* Arbeiterausschüsse und Einigungsämter in Oesterreich: *Prof. E. v. Philippovich.* Die neuere russische Gesetzgebung über den Gemeindebesitz: *P.S.* Die schweizerische Gesetzgebung über die Arbeitszeit in den Transportanstalten: *T. Curti.*

Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Heft 1. 1895—

Über das Börsenspiel: *G. Cohn.* Die ländlich Verfassung Niederschlesiens: *G. F. Knapp und A. Kern.* Die Augsburger Zuschlagsteuer von 1475. Ein Beitrag zur Geschichte des städtischen Steuerwesens, fowie der socialen und Einkommensverhältnisse am Ausgange des Mittelalters: *J. Hartung.* Die ungarischen Berufsverhältnisse nach der Zählung des Jahres 1891: *P. Kollman.*

GERMANY—*Contd.*

Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Heft 1. 1895—*Contd.*

Die Ergebnisse der deutschen Silberenquete: *W. Lotz.* Der Befähigungsnachweis: *W. Stieda.* Die Dampfkraft in einigen deutschen Bundesstaaten: *K. Oldenberg.* Die Errichtung kommunaler Arbeitsnachweise: *K. Oldenberg.* Ämter für Arbeitsstatistik in den einzelnen Ländern.

Jahrbücher für Nationalökonomie und Statistik—

Band viii. Heft 6. 1894—

Zur Entstehung der deutschen Stadtverfassung: *W. Varges.* Die gesetzliche Regelung des Grunderwerbs in den englischen, französischen und holländischen Kolonien: *A. Zimmermann.* Die amerikanische Einkommensteuer (*continued*): *Prof. Seligmann.*

Band ix. Heft 1. 1895—

Stadt und Land unter dem Einfluss der Binnenwanderungen: *A. Wirminghaus.* Die Reform und Erweiterung der deutschen Unfallversicherung: *R. van der Borght.* Die Verschuldung des ländlichen Grundbesitzes in Preussen, Baden, Württemberg und Hessen: *R. Dieckmann.* Zur Statistik der Arbeitseinstellungen in Frankreich: *M. v. Heckel.* Versicherung gegen Arbeitslosigkeit im Kanton Basel-Stadt: *M. v. Heckel.* Die Preisentwickelung der letzten Jahre und der Antrag Kanitz: *J. Conrad.*

Zeitschrift für Litteratur und Geschichte der Staatswissenschaften. Band iii. 5 *und* 6 *Heft.* 1895—

Zur neueren Litteratur über das Dreiklassenwahlsystem im Preussen: *Prof. K. v. Siengel.* Über das Recht der Polizei. Vortrag, gehalten im Jahre 1791 dem Kronprinzen Friedrich Wilhelm (III) von Karl Gottlieb Svarez: *Prof. H. Rosin.*

Zeitschrift für die Gesamte Staatswissenschaft—

Heft 1. 1895—

Das Problem der Wirtschaftskammern (*continued in next number*): *Dr. A. Schäffle.* Handelsstatistik und Handelsbilanz: *Dr. J. Grunzel.* Wesen, Begriff und Einteilung der Versicherung vom ökonomischen Standpunkte: *Dr. O. Freiherr v. Boenigk.* Die handelspolitischen Anschauungen Heinrich von Thünen's: *Dr. C. J. C. Häntzsche.* Uebersicht über die Verträge, Gesetze und Verordnungen der Jahre 1893 und 1894.

Heft 2. 1895—

Kritik der Ricardo-Thünen's Grundrenterlehre: *G. Flatow.* Die Abänderung und Erweiterung der Unfallversicherung in Deutschland: *Dr. C. Hampke.* Die Organisation des Kleingewerbes: *Dr. A. Voigt.*

AUSTRIA—

Statistische Monatschrift—

November—December, 1894—

Bericht über die Thätigkeit des statistischen Seminars an

AUSTRIA—*Contd.*

Statistische Monatschrift—Contd.

November—December, 1894—*Contd.*

der k. k. Universität Wien während des Wintersemesters 1893-94: *Dr. H. v. Schullern-Schrattenhofen.* Die österreichischen Assecuranze-Gesellschaften im Jahre 1892: *R. Krickl.*

January, 1895—

Ernteergebnisse der wichtigsten Körnerfrüchte im Jahre 1894. Kirchenstatistik: *Dr. F. Schmidt.*

ITALY—

Giornale degli Economisti—

January, 1895—

La vita e il pensiero di Francesco Ferrara: *A. Bertolini.* Le legge della domanda: *V. Pareto.*

February, 1895—

Sulla finanza italiana: *A. J. Johannis.* Terre incolte e latifondi: *A. Di Rudini.*

SWITZERLAND—

Journal de Statistique Suisse. 1 *Quartal-Heft.* 1895—

La statistica nelle sua storia e nei suoi elementi: *F. Chicherio.* Der Handarbeitsunterricht für Knaben in der Schweiz. Die Ergebnisse der sanitarischen Untersuchungen der Recruten des Kantons Graubünden (Schweiz) in den Jahren 1875-79. Die Arbeitslöhne in den industriellen Betrieben des ersten schweizerischen Fabrik-Inspektionskreises: *Dr. F. Schuler.*

VIII.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15*th March*, 1895, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries.	
Argentine Republic—	
Comercio Exterior Argentino. Año 1894. No. 83. Importacion y Exportacion de los primeros nueve meses de 1893 y 1894. 8vo. Patentes Comerciales, industriales y maritimas de la Capital de la Republica correspondiente a 1894. Estadistica de las. 8vo	The Director-General of Statistics
Higiene Publica. Anales de. (Current monthly numbers)	Dr. E. R. Coni
BUENOS AYRES (PROVINCE). Boletin mensual de Estadistica de Policia. Año iv, No. 10, Oct., 1894	The Provincial Statistical Bureau

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries—*Contd.*	
Argentine Republic—*Contd.*	
BUENOS AYRES (CITY). Monthly Bulletin of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Instituto Geografico Argentino. Boletin del, Tomo xv, Cuadernos 5—8. Maps, 8vo., 1894	The Institute
Austria-Hungary—	
Ackerbau-Ministeriums. Statistisches Jahrbuch des k.k., für 1893. Heft 2. Der Bergwerksbetrieb Österreichs im Jahre 1893. Lief 2. 8vo.	The Ministry of Agriculture
Ernteergebniss der wichtigsten Körnerfrüchte im Jahre 1894. Diagrams, 8vo	
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo. 1894-95	The Statistical Department, Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten für Dec., 1894. Sheet	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österreichisch-ungarischen. (Current numbers.) 8vo. 1894-95	The Statistical Department, Ministry of Commerce
Handel. Statistische Uebersichten betreffend den auswärtigen, des österreichisch-ungarischen Zollgebiets. (Current monthly numbers, and for the year 1894)	
Bevolkerung. Bewegung der, im Jahre 1892. Fol.	The Central Statistical Commission
Rechtspflege. Statistik der, 1891. Heft 1, Civilrechtspflege. Heft 3, Strafrechtspflege. Heft 5, Civilgerichtliche Depositenwesen, Cumulativen, Waisencassen, &c. Fol.	
Statistische Monatschrift. (Current numbers)	
Prague—	
Bulletins hebdomadaires et trimestriel de la ville de Prague et des communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau
Statistisches Handbuch der königlichen Hauptstadt Prag für 1890 und 1891. (With French Translations of Tables of Contents.) 2 vols., 8vo.	
Verwaltungsbericht der königlichen Hauptstadt Prag für 1890-92. (With French Translations of Tables of Contents.) 2 vols., 8vo.	
Belgium—	
Annales des Travaux Publics de Belgique. Tome li, Cahier 4. (Contains—Statistique des mines, minières, carrières, usines, &c., pour 1893.) Plans, &c., 8vo.	The Administration of Mines
Armée Belge. Statistique médicale de l'. Année 1893. 8vo.	The Belgian Government
Commerce avec les Pays Etrangers pendant 1893. Tableau Général du. Fol.	The Bureau of General Statistics
Commercial, Tableaux du Mouvement, avec les Pays Etrangers. (Current monthly numbers)	
Brussels—	
Bulletins hebdomadaires et trimestriel de statistique démographique et médicale. (Current numbers)	Dr. E. Janssens

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(a) **Foreign Countries—***Contd.*	
Belgium—*Contd.*	
Brussels—Contd.	
Rapport sur les Opérations du service d'hygiène et sur la salubrité publique de Bruxelles pendant 1893. 8vo.	Dr. E. Janssens
BRUGES. Verslag over het Bestuur en den Toestand van Stadszaken voor 1893. 8vo.	The Burgomaster
HASSELT. Exposé de la situation administrative de la Ville. Exercice 1893-94. 8vo.	"
China—	
Customs Gazette. July—Sept., 1894. No. 103. 4to.	Sir Robert Hart, Bart., G.C.M.G.
Journal of the China Branch of the Royal Asiatic Society. Vol. xxvi, New Series, 1891-92	The Society
Denmark—	
Causes des décès dans les villes du royaume en 1893. 4to.	The Statistical Bureau
Nationalökonomisk Tidskrift, 1895. (Current numbers)	The Danish Political Economy Society
Egypt—	
Bulletin mensuel du Commerce extérieur de l'Egypte. (Current numbers.) La. 8vo.	The Director-General of Customs
Budget du Gouvernement Egyptien pour l'Exercice 1895. La. fol. Compte général du Gouvernement Egyptien pour l'Exercice 1894. Fol. Finances, Comité des. Note au Conseil des Ministres. Projet de Budget pour l'Exercice 1895. Fol.	Sir E. M. Palmer, K.C.M.G., Cairo
Postal Guide, Egyptian. Published half-yearly. 1st November, 1894. 8vo.	The Director-General of the Post Office
Services Sanitaires, &c. Bulletin hebdomadaire de l'Administration des. (Current numbers)	The Health Department
Comité de Conservation des Monuments de l'Art Arabe, Exercice 1893. Procès-Verbaux des Séances, &c. Fasc. 10, plates, 8vo. Le Caire, 1894	The Committee
France—	
Agriculture. Bulletin du Ministère de l'. Année 1894. No. 7 (contains "Statistique Agricole Annuelle," 1893) and No. 8	The Ministry of Agriculture
Chemins de Fer Français. Statistique des, au 31 Dec., 1893. Documents principaux. Maps, 4to.	The Ministry of Public Works
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Minérale. Statistique de l'Industrie, et des Appareils à vapeur en France et en Algérie pour 1893, avec un Appendice concernant la Statistique minérale internationale. Diagrams, 4to.	The Ministry of Public Works

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France—*Contd.*	
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Travail. Office du. Bulletin. (Current monthly numbers.) 8vo.	The French Labour Department
L'Economiste Français. (Current weekly numbers)	The Editor
Journal des Economistes. (Current monthly numbers)	"
Le Monde Economique. (Current weekly numbers)	"
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	"
La Réforme Sociale. (Current numbers)	"
Le Rentier. Journal Financier Politique. (Current numbers)	"
Revue d'Economie Politique. (Current monthly numbers)	"
Ecole Libre des Sciences Politiques, Annales. Année 1895, No. 1	The Institution
Société de Statistique de Paris, Journal. (Current monthly numbers)	The Society
Germany—	
Gesundheitsamtes. Veröffentlichungen des Kaiserlichen. Nos. 27—52, 1893. Nos. 1—52, 1894. 8vo.	The Imperial Health Bureau
Handel des deutschen Zollgebiets. Monatliche Nachweise über den Auswärtigen. (Current numbers)	The Imperial Statistical Bureau
Schiffahrt, Binnen, im Jahre 1893. 4to.	
Seeschiffahrt. Statistik der, für 1893. Abth. 2. Seeverkehr in den deutschen Hafenplätzen. Seereisen deutscher Schiffe. 4to.	
Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1894, Heft 4, Jahrgang 1895, Heft 1. 4to.	
SAXONY. Zeitschrift des K. Sachsischen Statistischen Bureaus. Jahrgang 1893, Heft 3 und 4. Jahrgang 1894. Heft 1 und 2	The Bureau
BERLIN. Eheschliessungen, Geburten, Sterbefälle, und Witterung. (Current weekly and monthly numbers)	The Municipal Statistical Bureau
DRESDEN. Monatsberichte des Statistischen Amtes der Stadt Dresden. No. 12, December, 1894	"
FRANKFORT. Jahresbericht über die Verwaltung des Medicinalwesens . . . der Stadt. Jahrgang 1893.	"
Allgemeines Statistisches Archiv. Jahrgang III. Halbband 2. Map, 8vo. 1894	The Editor
Archiv für Soziale Gesetzgebung und Statistik. Band vii, Heft 4, 1894	The Publisher
Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Jahrgang xix, Heft 1, 1895	The Editor
Jahrbücher für Nationalökonomie und Statistik. (Current monthly numbers)	The Publisher
Zeitschrift für die gesamte Staatswissenschaft. 51 Jahrgang. Hefte 1 und 2, 1895	"
Zeitschrift für Litteratur und Geschichte der Staatswissenschaften. Band iii, Hefte 5 und 6, 1894	The Editor

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(a) Foreign Countries—*Contd.*	
Italy—	
Agricoltura all' Estero. Notizie intorno alle condizioni dell'. La Viticoltura e l' Enologia nell' Americana meridionale. 8vo. 1894	The Director General of Statistics
Biblioteche. Statistica delle. Vol. ii. 1894. 8vo	
Bollettino di Legislazione e Statistica Doganale e Commerciale. (Current monthly numbers)	
Bollettino di Notizie sul Credito e la Previdenza. (Current numbers)	
Bollettino settimanale dei Prezzi di alcuni dei principali Prodotti Agraria e del Pane. (Current numbers)	
Bollettino Sanitario, Direzione della Sanita Pubblica. (Current monthly numbers)	
Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
Istruzione elementare. Statistica della, per l' anno scolastico 1892-93. 8vo.	
Istruzione secondaria e superiore e Convitti maschili e femminili. Anno Scolastico 1891-92. 8vo	
Mortalità per infezione malarica in ciascun comune del Regno d' Italia nei tre anni 1890-92. Large map in 2 sheets	
Sanità. Circa i fatti principali riguardanti l' Igiene e la Sanità pubblica nel Regno nel secondo semestre nel 1894. Epidemia colerica all' estero . . . . La. 8vo	
Scioperi. Statistica degli, avvenuti nell' Industria e nell' Agricoltura durante 1892 e 1893. 8vo.	
Stampa Periodica. Statistica della, nell' anno 1893	
L'Economista. (Current weekly numbers)	The Editor
Giornale degli Economisti. (Current monthly numbers)	"
Japan. *Tokio-Fu—*	
Weekly and monthly reports of Births, Marriages, and Deaths. (Current numbers)	The Governor of Tokio-Fu
Sanitary Annual Report, 1893. 4to. Map	
Mexico. Estadistica Fiscal. Datos relativos al mes de Mayo y Junio, 1894, al cuarto trimestre y al segundo semestre de 1893-94	The Statistical Bureau
Netherlands—	
Caisse d'Epargne Postale des Pays Bas. Extrait du Rapport concernant le service de la, en 1893. 4to.	The Director of Post Office Savings Banks
Geboorten. Statistiek der, en der sterfte naar den leeftijd en de oorzaken van den dood. (Current monthly numbers)	The Ministry of the Interior
Jaarcijfers over 1883 en vorige Jaren. No. 3. 8vo	C. A. V. Stuart, Esq.
Scheepvaart. Statistik der, 1893. Gedeelte 3, Vrachtvaart door Nederlandsche Schepen op vremde Havens. 4to.	Dr. G. de Bosch Kemper
Staten van de In-, Uit-, en Doorgevoerde voornaamste Handelsartikelen. (Current monthly numbers)	Dr. W. Verkerk Pistorius

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Portugal—	
Annaes de Estatistica. Vol. i. Serie I. Finanças. No. 1. Estatistica Bancaria (1858-92). 8vo.	The General Statistical Bureau
Annuario Estatistico do Reino de Portugal. Anno I. 1875. 8vo.	
Commercio do Continente do Reino e Ilhas adjacentes com Paizes Estrangeiros. Annos 1890-92. 3 vols. La. 4to.	
Industrial. Resumo do Inquerito, de 1881. Fol.	
Movimento da População. Estado civil. Emigração. Estatistica especial. Annos 1—4, 1887-90. 4 vols. 8vo.	
Roumania—	
Buletin statistic general al Romaniei. Anul II. No. 4. 8vo. 1894	The Statistical Bureau
Evaluations provisoires des cultures et récoltes pour l'année agricole 1893-94. Sheet	
Miscarea populatiunei in comunele urbane. Tablou resumativ. (Current monthly numbers.) Sheets	
Statistica Judiciara din Romania. 1887 and 1888. 2 vols. 4to. 1893-94	
Russia—	
Agricultural Year-Book, 1894. Part 3. Diagrams, 8vo. (In Russian)	The Agricultural Department
Budget of the Empire for 1895. Report of Minister of Finance on the. Fol. 1894	The Editor "Bulletin russe de statistique financière"
(Another copy in French)	
Bulletin russe de statistique financière et de législation. (Current monthly numbers.) La. 8vo.	The Editor
Industries of Russia, Mining and Metallurgy. Vol. iv. Maps, 8vo. 1893	The Russian Department of Mines
Prices. Diagram-maps showing prices of rye and oats in European Russia on 1st Oct. and Nov., 1894. Sheets	The Department of Commerce and Manufactures
Règlement définitif du Budget de l'Empire pour l'Exercice 1893. Rapport par le Contrôleur de l'Empire. 8vo.	The Controller of the Empire
Trade. Current Monthly Returns (in Russian)	The Customs Department
FINLAND. Exposé de la situation économique de la Finlande pendant 1886-90. 8vo	The Statistical Bureau
Servia. Instruction publique. Statistique de l', pour l'année scolaire 1884-85. Diagrams, 4to. 1894	The Statistical Bureau
Spain—	
Cabotaje. Estadistica general del comercio de, entre los puertos de la Peninsula e Islas Baleares, en 1892. 4to.	The Director-General of Customs
Comercio Exterior de España. Estadistica general del, en 1893. 4to.	
Comercio Exterior. Resumenes mensuales de la Estadistica del. (Current numbers)	
Ordenanzas generales de la Renta de Aduanas. Edicion oficial. vi + 607 pp. 8vo. 1894	

Donations—Contd.

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(a) **Foreign Countries**—*Contd.*	
Spain—*Contd.*	
Sociedad Geográfica de Madrid. Boletin. (Current monthly numbers)	The Society
Sweden and Norway—	
SWEDEN. *Bidrag till Sveriges officiela Statistik*—	
C. Bergshandteringen, 1893. (Mining and Minerals)	The Central Statistical Bureau
F. Utrikes Handeln, 1893. (Trade)	
G. Fångvården, 1893. (Crime and Prisons)	
L. Statens Jernvägstrafik, 1893. (Railways)	
N. Jordbruk och Boskappskötsel, 1893 and 1894. (Agriculture)	
P. Undervisningsväsendet, 1891-92. (Education)	
Q. Statens Domäner. 1893. (Forests, &c.)	
S. Allmänna Arbeten, 1893. (Public Works)	
NORWAY. *Norges officielle Statistik*—	
197. Service vétérinaire en 1892	The Central Statistical Bureau
198. Maisons centrales pénitentiaires en 1891-92	
199. Statistique du Recrutement pour 1893	
200. Statistique des Télégraphes de l'Etat, 1893	
201. Statistique postale pour 1893	
202. Recensement, 1891. Population des Divisions administratives	
CHRISTIANIA. Statistiske Meddelelser angaaende Christiania By. 8de Aargang, 1894. 8vo	The Statistical Bureau
Switzerland—	
Annuaire Statistique de la Suisse. 4e année, 1894. Map, 8vo	The Federal Statistical Bureau
Aliénés. Renseignements statistiques sur le mouvement dans les asiles publics d'Aliénés, et dans les principaux établissements privés (Entrées et Sorties) pendant 1892. 76 pp., 4to. 1894	
Bulletin démographique et sanitaire Suisse. (Current weekly numbers)	
Journal de Statistique Suisse, 1895. Heft 1, 4to	
United States—	
Agricultural Department. Monthly reports of the Statistician on Crops, &c. (Current numbers)	The Department of Agriculture
Comptroller of the Currency. Annual Report of, 3rd Dec., 1894. 8vo	The Comptroller of the Currency
Extra Census Bulletin, No. 97. Statistics of Foreign Parentage	Hon. Carroll D. Wright
Consular Reports. (Current monthly numbers.) 8vo. 1894-95	The Department of State
Debt. Monthly Statements of the Public, and of Cash in Treasury. (Current numbers.) Sheets	The Secretary of the Treasury
Finances. Annual Report of Secretary of Treasury on State of Finances for year ending 30th June, 1894	
Gold, Silver, and Notes, &c., in Circulation, and Changes in Money and Bullion in the Treasury. Monthly Statements. (Current numbers.) Sheets	

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Gold and Silver in Treasury of United States, and Circulation of Silver and Silver Certificates (at the end of each Month). [1878-94.] Diagram. Sheet.... Imports and Exports. Summary Statement of. (Current monthly numbers)	Worthington C. Ford, Esq.
Labor. Ninth Annual Report of the Commissioner of Labor, 1893. Building and Loan Associations. 8vo.	The Commissioner of Labor
Mint. Twenty-second Annual Report of Director of, for year ended 30th June, 1894. 8vo.	The Director of the Mint
Surgeon-General of the Army. Report of, for year ending 30th June, 1894. 8vo.	The Surgeon-General
Connecticut—	
Bureau of Labor Statistics. Tenth Annual Report for year ending 30th Nov., 1894. 8vo.	The Bureau of Labor
State Board of Health. Monthly Bulletins. (Current numbers)	The Board of Health
INDIANA. Fifth Biennial Report of the Department of Statistics, for 1893-94. 8vo..........	The Department
IOWA. State Bureau of Labor. The Labor Bulletin. (Current numbers)	The Bureau of Labor
Minnesota—	
Corrections and Charities. Fifth Biennial Report of State Board of, for period ending 31st July, 1892 .... Health. Fourteenth Report of State Board of, and Vital Statistics, 1891-92. 8vo. .... Public Instruction. Eighth Biennial Report of Superintendent of, 1892-94. 8vo. .... Railroad and Warehouse Commission. Annual Report for year ending 30th November, 1892. 8vo.	The Commissioner of Labor
MISSOURI. Bureau of Labor Statistics and Inspection. Sixteenth Annual Report for year (ending 5th Nov.) 1894. Map, 8vo.	The Bureau of Labor
OHIO. Bureau of Labor Statistics. Seventeenth Annual Report for 1893 (Parts 1, Farm Statistics; 2, Working Women; 3, Free Public Employment Offices). 8vo. 1894	The Bureau of Labor
WISCONSIN. Bulletin of the University of. Vol. i, No. 1, Geographical Distribution of the vote of the thirteen States on the Federal Constitution, 1787-88. By *O. G. Libby*. Maps, 8vo. 1894	The University
Banker's Magazine. (Current monthly numbers)..........	The Editor
Bradstreet's Journal. (Current weekly numbers)..........	„
Commercial and Financial Chronicle. (Current weekly numbers)	„
Investor's Supplement and State and City Supplement to Commercial and Financial Chronicle. (Current numbers)	„
Employer and Employed. (Current numbers)..........	„
Engineering and Mining Journal. (Current numbers)	„
Journal of Political Economy. Vol. iii, No. 1, 1894	The Publisher
Library of Economics and Politics. Vol. iv, American Charities. A Study in Philanthropy and Economics, by *A. G. Warner*. 8vo. 1894	Prof. R. T. Ely, Ph.D., LL.D.

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North American Review. Vol. 160, No. 2, Feb., 1895 (contains—The Financial Muddle, by Hon. J. S. Morton, Hon. W. M. Springer, and H. W. Cannon).	H. W. Cannon, Esq.
Political Science Quarterly. Vol. ix, No. 4, Dec., 1894	The Editor
Quarterly Journal of Economics. Vol. ix, No. 2, Jan., 1895	"
Yale Review. Vol. iii, No. 4, Feb., 1895	"
Actuarial Society of America. Papers and Transactions. No. 12. 8vo. 1894	The Society
American Academy of Arts and Sciences. Proceedings. New series. Vol. xxi. Plates, 1894	The Academy
American Academy of Political and Social Science. Annals. Vol. v, Nos. 4 and 5. 1895	"
American Economic Association. Publications. Vol. ix, No. 4. Sir William Petty, a Study in English Economic Literature: *W. L. Bevan.* 1894	The Association
American Geographical Society. Bulletin. Plates. (Current numbers)	The Society
American Statistical Association. Quarterly Publications. No. 27, Sept., 1894	The Association
Franklin Institute, Journal. (Current monthly numbers)	The Institute
Uruguay. Anuario Estadistico de la Republica. Año 1893. Plates and diagrams, la. 8vo.	The Statistical Bureau
International—	
Bulletin International des Douanes. (Current numbers.) 8vo.	The Board of Trade
Hygiene and Demography. Eighth International Congress of, Budapest, 1894. Resolutions, 8vo.	The General Secretary
Sixth International Geographical Congress, London, 1895. Invitation circular, 8vo.	The Royal Geographical Society
(b) India and Colonial Possessions.	
India, British—	
Moral and Material Progress and Condition of India during 1891-92 and the nine preceding years, twenty-eighth number (being the third decennial report) (43), 1894. Also during 1892-93, twenty-ninth number (199), 1894. 2 vols., fol.	The India Office
Trade by Land with Foreign Countries. Monthly Accounts. (Current numbers) Trade and Navigation. Monthly Accounts. (Current numbers)	The Department of Finance and Commerce, Calcutta
Indian Engineering. (Current weekly numbers)	The Editor
Asiatic Society of Bengal—	
Journal. Vol. lxiii. Part 1, No. 3; Part 2, No. 2. 1894 Proceedings. Nov., 1894	The Society

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Agriculture and Colonisation. Report of Select Standing Committee, 1894	Dr. J. G. Bourinot, C.M.G.
Census of Canada, 1890-91. Vol. iii, 8vo., 1894. Industrial Establishments	
Chicago Exhibition, 1893. Report of Executive Commissioner for Canada	
Civil Service List, 1894	
Debates of House of Commons of Canada. Session 1894. 2 vols.	
Inland Revenues. Reports, Returns, and Statistics of, for 1893-94	
Inspection of Weights and Measures and Gas, 1893-94	
Journals of Senate of Canada. Vol. xxviii, 1894	
Public Accounts for 1893-94	
Steamboat Inspection. Report on, for 1893	
Trade and Commerce. Report of Department of, 1894	
Sessional Papers. Session 1894. *Vols.*—	
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ix. Reports of Department of Marine and Fisheries for 1892-93, and on Steamboat Inspection for 1893	
x. Reports of Postmaster-General for 1892-93, of Department of Interior, of Geological Survey Department, and of Department of Indian affairs for 1893	
xi. Reports on North West Mounted Police, of Secretary of State, of Civil Service Examiners, of Department of Militia and Defence, &c., &c., for 1892-93	
xvii. Education, School Laws, Copyright Question, French Treaty, &c.	
Banks acting under Charters. Monthly Statements of. (Current numbers)	N. S. Garland, Esq.
ONTARIO. Bureau of Industries. Bulletin. 52. Crops and Live Stock in Ontario. 1894. 8vo.	The Bureau
Insurance and Finance Chronicle. (Current weekly numbers)	The Editor
Cape of Good Hope—	
Argus Annual and South African Gazetteer, 1895	Colonial Secretary
Agricultural and Live Stock Returns for 1893-94. iv + 24 pp., fol. Cape Town, 1894	The Agent-General for the Cape

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Jamaica. Annual Report of Registrar-General for year ended 31st March, 1894. Fol.	The Registrar-General
New South Wales—	
Blue Book for 1893	Agent-General for New South Wales
The Seven Colonies of Australasia. Diagrams and maps, 8vo. 1894 Statistical Register for 1893 and previous years. Parts 8, Law and Crime; 9, Education, Religion, and Charities; 10, Miscellaneous	The Government Statistician
New Zealand—	
Labour Department. Journal of the, 8vo. (Current numbers)	The Labour Department
Statistics of the Colony for 1893, with Abstracts from Agricultural Statistics of 1894	The Registrar-General of N. Zealand
Queensland. Supplements to the Government Gazette (containing Vital Statistics). (Current numbers) ..	The Registrar-General of Queensland
South Australia. Births and Deaths. Monthly Statements of. (Current numbers)	The Registrar-General of S. Australia
Straits Settlements. The Perak Government Gazette. (Current weekly numbers)	The Government Secretary
Victoria. Victorian Year-Book, 1894. Sections 1 and 2. 8vo	H. H. Hayter, Esq., C.M.G.
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Labour Gazette. Journal of Labour Department of Board of Trade. (Current monthly numbers)	The Board of Trade
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British Museum. Catalogue of Printed Books. 9 parts, 4to. 1894	The Trustees of the Museum
London County Council—	
Report on Fires in London during 1894. Fol. London Statistics, 1893-94. Vol. iv. Maps and diagrams, fol. 1894 London Technical Education Gazette. (Current numbers.) 1894	The London County Council
London School Board—	
Report for year ending Lady-day, 1894. No. 8. 8vo. Reports of School Accommodation and Attendance Committee for the year ending Lady-day, 1894. 2 vols., la. fol.	The Board
BOLTON. Report on the Health of Bolton during 1893. Map, 8vo.	The Medical Officer of Health
BRIGHTON. Annual Report on the health, sanitary condition, &c., of Brighton for 1893. 8vo.	,,
Bristol—	
Annual Reports of Medical Officer of Health for 1888-93. 6 vols., 8vo., diagrams, &c. Bristol Port Sanitary District. Annual Reports for 1892 and 1893. 2 vols., 8vo.	,,
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LEICESTER. 44th Annual Report upon the health of, 1893, including report of Fever Hospital and history of Small-Pox Epidemic, 1892-93. Map, 8vo.	,,
MANCHESTER. Weekly and Quarterly Returns of the Medical Officer of Health. (Current numbers)	,,

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Annual Health Report for 1893. Diagram, 8vo. Report on Conservancy and water carriage systems for removal of excreta in seventy-eight towns of Great Britain and Ireland. 8vo. 1894	"
OLDHAM. Report on the Health of Oldham for 1893. 8vo.	"
SALFORD. Annual Reports of Medical Officer of Health for 1889-93. 5 vols., 8vo., maps, &c.	"
Ireland—	
Births and Deaths in Dublin, and in fifteen of the principal Urban Sanitary Districts. (Current weekly returns) Marriages, Births, Deaths, and Causes of Death in Ireland. Supplement to 27th Report of Registrar-General, containing Decennial Summaries of, for 1881-90. (C–7536.) Fol. Quarterly Return of Marriages to Sept., 1894, Births and Deaths to Dec., 1894. No. 124	The Registrar-General of Ireland
Education. Appendix to 60th Report of Commissioners of National Education for 1893. [C–7457–1.] 8vo.	W. R. I. Molloy, Esq.
BELFAST. Reports on Health of Belfast for 1892 and 1893. 2 vols., sm. 4to.	The Medical Officer of Health
Scotland—	
Births, Deaths, and Marriages in the eight principal Towns. (Current weekly and monthly returns) Quarterly Return of Births, Deaths, and Marriages registered during quarter ending 31st Dec., 1894	The Registrar-General of Scotland
ABERDEEN. Reports by Medical Officer of Health and Sanitary Inspector for Jan., 1895. 8vo.	The Medical Officer of Health
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BITHELL (RICHARD). Handbook of Scientific Agnosticism. 8 + 64 pp., sm. 8vo. 1892	The Author
BOISSEVAIN (G. M.). Die neueste Steuerreform in den Niederlanden im Anschluss an die Finanzgeschichte des Landes seit der Verfassungsrevision im Jahre 1848. 328 pp., 8vo. [1894]?	"
BRASSEY (LORD). Papers and Addresses. Naval and Maritime, from 1871-93; Mercantile Marine and Navigation from 1871-94; Work and Wages. 4 vols., 8vo. 1894	"
FERRARIS (CARLO F.). Note statistiche sulle Dotazioni delle Università germaniche ed italiane. 17 pp., 8vo. Venezia, 1894	"
JEANS (J. STEPHEN). Trusts, Pools, and Corners as affecting Commerce and Industry. viii + 190 pp., sm. 8vo. 1894	Purchased

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JURASCHEK (DR. FRANZ VON). Uebersichten der Weltwirtschaft. Jahrgang 1885-89. Lief 13. 12mo. 1895	The Author
KIÆR (A. N.). Indtægts-og Formuesforhold i Norge. (Répartition des Revenus et des Fortunes en Norvège.) 2 parts, 8vo. Kristiania, 1892	,,
KÖRÖSI (JOSEF). Mass und Gesetze der ehelichen Fruchtbarkeit. 10 pp., 8vo. Wien, 1894	The Author
Levy (*J. H.*)— Economics of Labour Remuneration. 16 pp., 8vo. 1894 Outcome of Individualism. 3rd Edition, revised and enlarged. 48 pp., 8vo. 1894	,,
MAYR (DR. GEORG VON). Statistik und Gesellschaftslehre. Band i, Theoretische Statistik. viii + 202 pp., 8vo. Freiburg, 1895	,,
MULHALL (MICHAEL G.). The Progress of the World. 8vo. 1880	Exchanged
PAGE and **GWYTHER** (MESSRS.). Chart of Money and Discount Rates in London during 1894. Chart of Prices and Rates in London during 1894. (Bar Silver, India Council Bills, Rupee Paper.) Export of Bullion and Specie to the East, 1885-94. Sheets	The Firm
RICARDO (DAVID). The first six chapters of the Principles of Political Economy and Taxation, 1817. (Economic Classics, edited by W. J. Ashley.) xii + 118 pp., sm. 8vo. 1895	Messrs. Macmillan and Co.
Rothwell (*Richard P.*)— The Mineral Industry, its Statistics, Technology, and Trade in the United States and other Countries. Vols. i and ii, for 1892 and 1893. 8vo. New York, 1893-94 Universal Bimetallism and an International Monetary Clearing House. 8vo. New York, 1893	The Author
SCOTT (BENJAMIN J.). Colonial Government Securities. (4th Issue.) 7 pp., 4to. 1894	Ernest Clarke, Esq.
SHAW (W. A.). History of Currency, 1252 to 1894. Being an Account of the Gold and Silver Monies and Monetary Standards of Europe and America, together with an Examination of the effects of Currency and Exchange Phenomena on Commercial and National Progress and Well-being. xxx + 431 pp., diagrams, 8vo. [1895]	Purchased
SMITH (ADAM). Select Chapters and Passages from the Wealth of Nations, 1776. (Economic Classics, edited by W. J. Ashley.) xii + 285 pp., sm. 8vo. 1895	Messrs. Macmillan and Co.
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STANTON (A. G.). Tea. A Paper read before Society of Arts, 1895. 12 pp., 8vo. 1895	The Author
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Vacher (Léon). Le Homestead aux Etats-Unis. xi + 286 pp., 8vo. Paris, 1895	The Author
Willich's Tithe Commutation Tables. Annual Supplement for ascertaining at sight the Tithe Rent Charge payable for 1895. . . By H. Bence-Jones. 9 pp., 8vo. 1895	"
Wolff (Henry W.). Co-operative Production. 20 pp., 8vo. 1895	"
Wright (R. S.) and (H.) Hobhouse. Outline of Local Government and Local Taxation in England and Wales (excluding London). Second Edition. xxi + 152 pp., 8vo. 1894	Purchased
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Anthropological Institute Journal. Vol. xxiv, No. 3, Feb., 1895. Plates	The Institute
British Association—	
Report of 64th meeting, held at Oxford in August, 1894. Plates, 8vo.	The Association
Index to Reports and Transactions from 1861 to 1890 inclusive. 8vo. 1893	Purchased
British Economic Association—	
Economic Journal. Dec., 1894 Tableau Œconomique. By François Quesnay. First printed in 1758, and now reproduced in facsimile for the Association. viii + xii + 6 pp., 4to. 1894	The Association
Economic Review. Vol. v, No. 1. 8vo. 1895	The Publishers
British South Africa Company—	
Report on Company's proceedings and condition of Territories within sphere of its operations, 1892-94. 4to. Directors' Report and Accounts, 31st March, 1894. Map, 4to. 1895	Ernest Clarke, Esq.
Co-operative Wholesale Societies, Limited, England and Scotland. Annuals for 1893, 1894, and 1895. 3 vols., diagrams, &c., 8vo.	Purchased
Fabian Society. What to read. (Fabian Tract No. 29.) A list of books for social reformers. Second edition, revised. 8vo. 1893	The Society
Howard Association. Report. October, 1894, and Leaflets	The Association
Imperial Institute. Journal. (Current monthly numbers)	The Institute
Institute of Actuaries. Journal. Vol. xxxi, Parts 5 and 6. 1894-95	"
Institute of Bankers. Journal. (Current numbers)	"
Iron and Steel Institute. Journal. Vol. xlvi, No. 2, 1894. Plates, &c. Also Brief Index of Papers contained in the Journal, 1869-94	"
London Chamber of Commerce Journal. (Current numbers)	The Chamber of Commerce

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London Hospital. General Statement of number of Patients under treatment during 1894. Sheet	The Hospital
Manchester Literary and Philosophical Society. Memoirs and Proceedings. Fourth series. Vol. viii, No. 4, and vol. ix, No. 1, 1893-95. Plates, 8vo.	The Society
Middlesex Hospital. Reports of the Medical and Surgical Registrars and Pathologist for 1893. 8vo.	The Hospital
National Liberal Club. Political Economy Circle. Transactions. Vol. i. Edited by J. H. Levy. 8vo. 1891	The Editor
Peabody Donation Fund. Thirtieth Annual Report of the Trustees for 1894. 4to.	J. Crouch, Esq.
Royal Agricultural Society. Journal. Third series. Vol. v, part 4. 1894	The Society
Royal Asiatic Society. Journal for Jan., 1895	"
Royal College of Physicians of London. List of Fellows, Members. 1895	The College
Royal Colonial Institute. Catalogue of the Library. La. 8vo. 1895	The Institute
Royal Geographical Society. Geographical Journal. (Current numbers)	The Society
Royal Irish Academy. Proceedings. Vol. iii, No. 3. 1894	The Academy
Royal Medical and Chirurgical Society. Medico-Chirurgical Transactions. Vol. lxxvii. Plates, 8vo. 1894	The Society
Royal Meteorological Society—	
Meteorological Record for the quarter ending 30th June, 1894	R. H. Hooker, Esq.
Quarterly Journal. Vol. xx, No. 93. Jan., 1895	
Royal Society. Proceedings. (Current numbers)	The Society
Royal United Service Institution. Journal. (Current numbers)	The Institution
Sanitary Institute. Journal of the Institute. Vol. xv, part 4. Jan., 1895	The Institute
Society of Arts. Journal. (Current numbers)	The Society
Statistical Society of London. Proceedings. Vols. i and ii. (Nos. 1—14.) 1 vol., 8vo. 1834-38	Purchased
Surveyors' Institution. Transactions. (Current numbers)	The Institution

(f) **Periodicals, &c. (British).***

Accountant, The	Current numbers	The Editor
Athenæum, The	"	"
Bankers' Magazine, The	"	"
British Trade Journal, The	"	"
Building Societies and Land Companies' Gazette, The	"	"
Colliery Guardian	"	"
Commerce	"	"
Commercial World, The	"	"
Economist, The	"	"

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* Foreign and Colonial Periodicals will be found under the various Countries or Colonies in which they are issued.

IX.—PERIODICAL RETURNS.

REGISTRATION OF THE UNITED KINGDOM.

No. I.—ENGLAND AND WALES.

MARRIAGES—To 30th September, 1894.

BIRTHS and DEATHS—To 31st December, 1894.

A.—*Serial Table of* Marriages, Births, *and* Deaths, *returned in the Years* **1894-88**, *and in the* Quarters *of those Years.*

Calendar Years, **1894-88**:—*Numbers.*

Years	'94.	'93.	'92.	'91.	'90.	'89.	'88.
Marriages No.	—	218,689	227,135	226,526	223,028	213,865	203,821
Births........ ,,	889,242	914,542	897,957	914,157	869,937	885,944	879,868
Deaths .... ,,	498,515	569,958	559,684	587,925	562,248	518,353	510,971

Quarters *of each Calendar Year*, **1894-88.**

(I.) Marriages:—*Numbers.*

Qrs. ended last day of	'94.	'93.	'92.	'91.	'90.	'89.	'88.
March........ No.	47,683	40,243	42,835	49,203	40,905	41,006	40,276
June .... ,,	53,443	58,928	59,958	52,678	59,180	55,741	51,684
September ,,	60,001	58,539	58,264	58,651	57,143	53,820	51,603
December ,,	—	60,979	66,078	65,994	65,800	63,298	60,258

(II.) Births:—*Numbers.*

Qrs. ended last day of	'94.	'93.	'92.	'91.	'90.	'89.	'88.
March........ No.	228,808	231,133	219,999	229,133	225,640	220,296	223,766
June .... ,,	220,861	235,334	232,329	239,480	220,060	227,641	224,112
September ,,	215,868	229,376	228,771	224,580	220,769	220,341	214,651
December ,,	223,705	218,699	216,858	220,964	203,468	217,666	217,339

(III.) Deaths:—*Numbers.*

Qrs. ended last day of	'94.	'93.	'92.	'91.	'90.	'89.	'88.
March........ No.	147,992	144,291	182,614	157,987	165,318	139,344	149,976
June .... ,,	118,612	133,064	132,080	171,842	128,625	124,434	124,918
September ,,	107,503	143,555	116,008	116,690	122,515	122,362	107,881
December ,,	124,408	149,048	128,982	141,406	145,790	132,213	128,196

Annual Rates of MARRIAGES, BIRTHS, *and* DEATHS, *per* 1,000 PERSONS LIVING *in the Years* 1894-88, *and in the* QUARTERS *of those Years.*

Calendar YEARS, 1894-88:—*General Ratios.*

YEARS	'94.	Mean '84-93.	'93.	'92.	'91.	'90.	'89.	'88.
Estmtd. Popln. of England and Wales *in thousands* in middle of each Year	30,061,	—	29,731,	29,405,	29,083,	28,764,	28,448,	28,136,
Persons Married	—	14·9	14·7	15·4	15·6	15·5	15·0	14·4
Births	29·6	31·6	30·8	30·5	31·4	30·2	31·1	31·2
Deaths	16·6	19·2	19·2	19·0	20·2	19·5	18·2	18·1

QUARTERS *of each Calendar Year,* 1894-88.

(I.) PERSONS MARRIED:—*Ratio per* 1,000.

Qrs. ended last day of	'94.	Mean '84-93.	'93.	'92.	'91.	'90.	'89.	'88.
March	12·9	11·8	11·0	11·7	13·7	11·5	11·7	11·5
June	14·3	15·5	15·9	16·4	14·5	16·5	15·7	14·7
September	15·8	15·0	15·6	15·7	16·0	15·8	15·0	14·6
December	—	17·3	16·3	17·8	18·0	18·2	17·7	17·0

(II.) BIRTHS:—*Ratio per* 1,000.

Qrs. ended last day of	'94.	Mean '84-93.	'93.	'92.	'91.	'90.	'89.	'88.
March	30·9	32·3	31·5	30·0	32·0	31·8	31·4	31·9
June	29·5	32·5	31·7	31·7	33·0	30·7	32·1	31·9
September	28·5	31·3	30·6	30·9	30·6	30·5	30·7	30·3
December	29·5	30·6	29·2	29·3	30·1	28·1	30·4	30·6

(III.) DEATHS:—*Ratio per* 1,000.

Qrs. ended last day of	'94.	Mean '84-93.	'93.	'92.	'91.	'90.	'89.	'88.
March	20·0	21·7	19·7	24·9	22·0	23·3	19·9	21·4
June	15·8	18·8	18·0	18·0	23·7	17·9	17·5	17·8
September	14·2	17·3	19·2	15·7	15·9	16·9	17·1	15·2
December	16·4	19·0	19·9	17·4	19·3	20·1	18·4	18·1

B.—*Special Town Table:*—POPULATION; BIRTH-RATE *and* DEATH-RATE *in each Quarter of* 1894, *in* THIRTY-THREE *Large Towns.*

Cities and Boroughs.	Estimated Population in the Middle of the Year 1894.	Annual Rate to 1,000 Living during the Thirteen Weeks ending							
		31st March. (1st Quarter.)		30th June. (2nd Quarter.)		29th September. (3rd Quarter.)		29th December. (4th Quarter.)	
		Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Thirty-three towns	10,458,442	32·0	21·0	30·4	17·4	29·8	16·4	30·7	17·7
London*	4,349,166	31·4	21·2	29·5	17·4	29·3	15·9	30·2	16·6
West Ham	238,184	36·3	18·8	32·7	15·5	31·5	14·9	35·4	15·5
Croydon	111,921	26·6	16·1	23·7	11·5	24·2	12·4	25·6	12·7
Brighton	118,715	25·3	18·8	26·0	13·6	25·1	15·6	26·8	17·7
Portsmouth	170,973	29·2	16·4	25·5	12·3	28·4	14·3	27·4	17·6
Plymouth	87,931	30·7	28·1	27·7	15·6	29·0	13·5	27·9	16·1
Bristol	226,578	31·1	22·9	27·0	16·1	27·9	13·3	26·8	16·7
Cardiff	148,890	36·0	19·3	33·9	16·1	33·6	13·9	33·9	15·6
Swansea	95,399	33·3	18·9	30·1	15·6	32·8	14·5	32·8	19·2
Wolverhampton	85,036	34·1	22·9	35·3	22·5	33·0	18·7	33·9	18·7
Birmingham	492,301	33·3	22·4	31·5	19·4	29·7	15·1	32·2	17·4
Norwich	105,645	31·6	25·9	30·3	16·5	27·5	15·1	29·8	17·4
Leicester	189,136	32·0	16·8	31·1	13·2	29·8	14·1	33·0	14·6
Nottingham	223,584	29·7	19·3	29·2	18·2	27·0	15·2	28·6	16·1
Derby	98,796	29·9	16·9	29·9	12·9	28·5	13·4	29·0	16·9
Birkenhead	105,627	32·8	22·3	30·9	18·2	32·1	16·9	26·6	14·8
Liverpool	507,230	37·0	25·9	35·8	22·7	34·4	24·3	34·3	22·5
Bolton	118,303	33·1	20·9	32·0	17·2	29·8	17·0	31·2	20·1
Manchester	520,211	32·4	23·1	32·7	19·6	32·0	18·8	30·8	20·2
Salford	205,828	35·6	23·5	34·4	21·6	32·7	19·7	34·4	19·1
Oldham	138,755	28·0	20·2	25·8	17·7	27·3	15·8	27·6	20·7
Burnley	96,478	31·5	21·8	30·8	17·7	31·7	14·3	34·8	21·0
Blackburn	125,797	30·6	18·9	28·5	16·9	26·3	16·3	29·9	19·5
Preston	111,425	34·5	21·5	30·8	17·4	31·7	22·2	31·3	22·0
Huddersfield	98,511	22·4	18·0	18·1	15·1	19·7	13·4	20·8	16·7
Halifax	92,861	24·4	17·6	24·4	16·8	22·9	14·1	20·9	17·4
Bradford	223,985	27·2	18·5	27·1	15·8	26·5	15·1	25·9	18·6
Leeds	388,761	33·5	18·7	32·9	16·4	30·9	16·3	31·7	20·1
Sheffield	338,316	34·2	19·2	31·5	16·3	32·1	17·6	35·7	17·9
Hull	212,679	32·3	20·2	34·5	16·1	29·8	14·7	32·9	18·5
Sunderland	136,101	37·0	20·2	35·7	18·0	32·7	21·5	35·2	23·4
Gateshead	93,372	35·5	18·7	33·5	16·7	32·1	14·8	35·6	20·4
Newcastle	201,947	30·3	18·7	31·7	18·5	31·3	16·7	30·7	19·2

* Including deaths of Londoners in the metropolitan workhouses, hospitals, and lunatic asylums situated outside Registration London, but excluding deaths of persons not belonging to London occurring in Highgate Small-Pox Hospital, in the London Fever Hospital, and in the Metropolitan Asylum Board hospitals within Registration London.

C.—*Divisional Table:*—MARRIAGES *in the Year ending* 30*th September; and* BIRTHS *and* DEATHS *in the Year ending* 31*st December*, 1894, *as Registered Quarterly.*

1	2	3	4	5	6	7
			MARRIAGES in Quarters ending			
DIVISIONS. (England and Wales.)	AREA in Statute Acres.	Enumerated POPULATION, 1891.	31st December, 1893.	31st March, 1894.	30th June, 1894.	30th September, 1894.
		No.	No.	No.	No.	No.
ENGLD. & WALES....*Totals*	37,239,351	29,002,525	60,909	47,683	53,443	60,001
I. London	74,692	4,211,743	10,173	7,775	8,149	10,744
II. South-Eastern	3,991,604	2,867,538	6,122	3,978	4,773	5,313
III. South Midland	3,238,579	1,863,469	3,515	2,370	2,799	3,478
IV. Eastern	3,136,622	1,575,311	3,485	2,052	2,208	2,798
V. South-Western	4,997,695	1,908,998	3,641	2,809	3,303	3,214
VI. West Midland	3,964,632	3,250,007	6,996	5,295	5,836	6,634
VII. North Midland	3,535,223	1,806,415	3,627	2,984	3,528	3,562
VIII. North-Western	1,951,126	4,660,594	9,146	8,321	9,490	10,470
IX. Yorkshire	3,726,829	3,218,882	6,556	5,746	6,056	6,681
X. Northern	3,528,621	1,863,163	3,622	3,278	3,752	3,489
XI. Monmthsh. & Wales	5,093,728	1,776,405	4,026	3,075	3,549	3,623

8	9	10	11	12	13	14	15	16
	BIRTHS in each Quarter of 1894 ending				DEATHS in each Quarter of 1894 ending			
DIVISIONS. (England and Wales.)	31st March.	30th June.	30th September.	31st December.	31st March.	30th June.	30th September.	31st December.
	No.	No.	No.	No.	No.	No.	No.	No.
ENGLD. & WALES....*Totals*	228,808	220,861	215,868	223,705	147,992	118,612	107,503	124,408
I. London	34,058	32,007	31,791	32,697	22,448	18,329	16,860	17,625
II. South-Eastern	20,039	18,584	19,104	19,175	13,311	9,572	9,123	10,552
III. South Midland	13,728	13,274	12,871	13,106	9,067	6,424	5,890	6,717
IV. Eastern	12,434	11,898	11,545	12,202	8,134	5,996	5,429	5,949
V. South-Western	13,212	12,516	12,521	12,262	11,020	7,578	5,867	7,281
VI. West Midland	26,528	25,595	24,284	25,849	17,104	13,410	11,538	13,976
VII. North Midland	14,508	14,294	13,466	14,401	8,663	6,910	6,212	7,483
VIII. North-Western	38,079	36,943	36,161	37,722	24,449	21,346	19,971	22,833
IX. Yorkshire	25,318	24,903	23,860	25,499	15,303	13,087	12,253	14,665
X. Northern	15,878	16,241	15,786	16,220	8,838	8,065	7,527	9,078
XI. Monmthsh. & Wales	15,026	14,606	14,479	14,572	9,655	7,895	6,833	8,249

D.—*General Meteorological Table,*

[Abstracted from the particulars supplied to the

1894.	Temperature of										Elastic Force of Vapour.		Weight of Vapour in a Cubic Foot of Air.	
	Air.			Evaporation.		Dew Point.		Air—Daily Range.		Water of the Thames				
Months.	Mean.	Diff. from Average of 123 Years.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.		Mean.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.
	°	°	°	°	°	°	°	°	°		In.	In.	Grs.	Gr.
Jan.......	38·2	+1·5	0·0	36·3	−0·5	33·7	−1·0	9·3	−0·2	...	·193	−·007	2·3	−0·1
Feb.......	41·5	+2·7	+2·1	39·3	+1·7	36·8	+1·7	11·4	+0·3	...	·218	+·011	2·5	+0·1
Mar. ...	44·4	+3·3	+2·9	41·3	+1·5	38·1	+2·4	18·0	+3·2	...	·230	+·018	2·7	+0·2
Means...	41·4	+2·5	+1·7	39·0	+0·9	36·2	+1·0	12·9	+1·1	...	·214	+·007	2·5	+0·1
April ...	51·0	+4·9	+4·1	47·4	+3·7	43·6	+3·4	19·9	+1·4	...	·284	+·033	3·1	+0·2
May......	50·3	−2·3	−2·4	46·5	−2·4	42·4	−2·6	19·3	−1·2	...	·271	−·028	3·1	−0·3
June ...	58·6	+0·3	−0·4	54·6	0·0	51·1	+0·4	19·4	−1·7	...	·375	+·004	4·2	0·0
Means...	53·3	+1·0	+0·4	49·5	+0·4	45·7	+0·4	19·5	−0·5	...	·310	+·003	3·5	0·0
July......	62·0	+0·3	0·0	58·0	+0·4	54·5	+0·5	19·3	−1·6	...	·425	+·009	4·7	0·0
Aug. ...	59·6	−1·3	−1·8	56·7	−0·6	54·1	+0·1	15·6	−4·3	...	·419	+·002	4·7	0·0
Sept. ...	54·1	−2·5	−3·0	51·8	−2·2	49·6	−1·5	14·7	−3·6	...	·356	−·022	4·0	−0·3
Means...	58·6	−1·2	−1·6	55·5	−0·8	52·7	−0·3	16·5	−3·2	...	·400	−·004	4·5	−0·1
Oct.......	50·2	+0·7	+0·5	48·4	+0·7	46·3	+0·7	10·9	−3·7	...	·315	+·008	3·6	−0·2
Nov. ...	46·9	+4·4	+3·4	45·0	+3·5	42·9	+3·3	11·0	−0·4	...	·276	+·030	3·1	+0·2
Dec. ...	42·2	+3·2	+2·6	40·4	+2·2	38·2	+2·0	9·1	−0·3	...	·231	+·015	2·7	+0·1
Means...	46·4	+2·8	+2·2	44·6	+3·1	42·5	+2·0	10·3	−1·5	...	·274	+·018	3·1	0·0

Note.—In reading this table it will be borne in mind that the sign (−) minus signifies

(Compiled from observations

for the Year ended 31*st December*, 1894.

Registrar-General by JAMES GLAISHER, ESQ., F.R.S., &c.]

Degree of Humidity.		Reading of Barometer.		Weight of a Cubic Foot of Air.		Rain.		Daily Horizontal Movement of the Air.	Reading of Thermometer on Grass.					1894. Months.
									Number of Nights it was			Lowest Reading at Night.	Highest Reading at Night.	
Mean.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.	Mean.	Diff. from Average of 53 Years.	Amnt.	Diff. from Average of 79 Years.		At or below 30°.	Between 30° and 40°.	Above 40°.			
		In.	In.	Grs.	Grs.	In.	In.	Miles.				°	°	
87	0	29·702	− ·064	553	− 1	3·09	+1·24	380	15	13	3	12·8	40·2	January
85	0	29·879	+ ·079	552	− 1	1·59	+0·03	423	11	13	4	18·5	45·9	Feb.
78	− 3	29·605	+ ·053	548	− 2	0·72	−0·81	323	11	20	0	23·7	38·8	March
83	− 1	29·795	+ ·023	551	− 1	Sum 5·40	Sum +0·46	Mean 375	Sum 37	Sum 46	Sum 7	Lowest 12·8	Highst 45·9	Means
73	− 6	29·702	− ·047	539	− 4	1·44	−0·27	228	5	19	6	25·8	43·1	April
74	− 4	29·765	− ·019	540	0	1·52	−0·53	327	2	24	5	26·0	50·5	May
76	+ 1	29·840	+ ·028	532	0	2·04	+0·08	273	0	3	27	35·8	50·9	June
74	− 3	29·769	− ·013	537	− 1	Sum 5·00	Sum −0·72	Mean 276	Sum 7	Sum 46	Sum 38	Lowest 25·8	Highst 50·9	Means
76	0	29·724	− ·068	527	− 1	3·26	+0·68	254	0	0	31	41·2	56·0	July
83	+ 6	29·759	− ·022	530	+ 1	3·03	+0·65	266	0	3	28	34·1	56·2	August
84	+ 3	29·952	+ ·148	539	+ 6	1·25	−1·08	221	1	12	17	27·1	55·2	Sept.
81	+ 3	29·812	+ ·019	532	+ 2	Sum 7·54	Sum +0·25	Mean 247	Sum 1	Sum 15	Sum 76	Lowest 27·1	Highst 56·2	Means
87	− 2	29·743	+ ·032	540	0	3·99	+1·20	260	2	10	19	27·5	54·0	October
87	− 4	29·808	+ ·065	545	− 3	3·00	+0·66	241	0	21	9	30·3	49·3	Nov.
87	− 2	29·849	+ ·054	551	− 2	1·95	−0·01	326	5	20	6	26·0	47·3	Dec.
87	− 3	29·800	+ ·050	545	− 2	Sum 8·94	Sum +1·85	Mean 276	Sum 7	Sum 51	Sum 34	Lowest 26·0	Highst 54·0	Means

the average, and that the sign (+) plus signifies above the average.

of Greenwich.)

E.—*Comparative Table of* Consols, Provisions, Coal *and* Pauperism *in each* Quarter *of* 1892-93-94.

Quarters ending	Average Prices of														Pauperism.	
	2¾*l.* per Cent. Consols (for Money) per 100*l.* Stock.			Discount charged by the Bank of England.	Wheat per Quarter in England and Wales.		Meat per Pound at the Metropolitan Meat Market (by the Carcase).						Coal (Seaborne) in the London Market per Ton.		Quarterly Average of the Number of Paupers Relieved on the *Last Day* of each Week.	
							Beef.			Mutton.						
							Inferior Quality.	Second Quality.	First Quality.	Inferior Quality.	Second Quality.	First Quality.			In-door.	Out-door.
	£	*s.*	*d.*	£	*s.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*	*d.*		
1892																
Mar. 31	95	14	10	3·12	33	8	$4\frac{5}{8}$	$6\frac{1}{4}$	$7\frac{1}{16}$	6	8	$8\frac{3}{4}$	19	–	190,747	505,021
June 30	96	16	8	2·18	30	11	$4\frac{5}{8}$	$6\frac{1}{16}$	$6\frac{7}{16}$	6	$7\frac{5}{8}$	$8\frac{11}{16}$	17	2	174,015	494,284
Sept. 30	96	18	10	2·00	29	3	$4\frac{5}{8}$	$6\frac{1}{16}$	$7\frac{1}{8}$	$5\frac{3}{8}$	$7\frac{1}{8}$	$8\frac{1}{4}$	17	7	169,149	471,058
Dec. 31	97	3	7	2·79	27	5	$3\frac{5}{8}$	$6\frac{1}{8}$	$7\frac{1}{4}$	5	$6\frac{7}{8}$	8	16	7	186,627	478,983
1893																
Mar. 31	98	6	5	2·64	25	7	$3\frac{3}{4}$	6	$6\frac{7}{8}$	$5\frac{1}{2}$	7	$8\frac{1}{16}$	15	10	196,497	514,173
June 30	98	16	2	3·00	26	2	$4\frac{1}{8}$	6	$6\frac{7}{8}$	$5\frac{1}{4}$	$6\frac{5}{8}$	$7\frac{5}{8}$	13	8	178,968	491,303
Sept. 30	98	4	2	3·56	26	4	$4\frac{5}{8}$	$6\frac{1}{4}$	$7\frac{1}{4}$	$5\frac{5}{8}$	$7\frac{1}{16}$	$8\frac{1}{8}$	18	5	181,514	488,946
Dec. 31	98	2	7	3·02	27	2	4	$6\frac{3}{8}$	$7\frac{3}{8}$	$5\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{11}{16}$	27	–	201,303	511,385
1894																
Mar. 31	99	5	4	2·46	25	1	$3\frac{1}{2}$	$5\frac{7}{16}$	$6\frac{3}{4}$	$5\frac{1}{4}$	$7\frac{1}{4}$	$8\frac{3}{8}$	18	1	207,768	526,112
June 30	100	12	2	2·00	24	4	$3\frac{5}{8}$	$5\frac{7}{8}$	$6\frac{3}{4}$	$5\frac{1}{4}$	$7\frac{3}{8}$	$8\frac{1}{2}$	15	6	188,709	501,180
Sept. 30	101	19	7	2·00	22	11	$3\frac{3}{8}$	6	$6\frac{7}{16}$	$5\frac{5}{8}$	$7\frac{7}{16}$	$8\frac{7}{16}$	15	3	184,733	496,223
Dec. 31	102	8	7	2·00	19	2	$3\frac{3}{4}$	$5\frac{3}{4}$	$6\frac{5}{8}$	$5\frac{1}{2}$	$8\frac{1}{4}$	$9\frac{1}{8}$	15	7	201,695	504,865

F.—*Special Average Death-Rate Table:*—Annual Rate *of* Mortality *per* 1,000 *in* Town *and* Country Districts *of* England *in each Quarter of the Years* 1892-94.

	Area in Statute Acres.	Population Estimated in the middle of 1894.	Quarters ending	Annual Rate of Mortality per 1,000 in each Quarter of the Years			
				1894.	Mean '84-93.	1893.	1892.
Town Districts. The 100 Towns, together with all Registration Sub-Districts three-fourths of the population of which, as enumerated in 1891, resided within the boundaries of Urban Sanitary Districts*	4,222,051	20,252,051	March ..	20·0	22·3	20·4	24·6
			June	16·2	19·5	18·7	18·5
			Sept.	14·9	18·6	20·6	16·6
			Dec.	17·1	20·2	20·9	18·3
			Year	17·1	20·2	20·2	19·5
Country Districts. All the remaining Registration Sub-Districts of England and Wales—not coming within the above definition of Town Districts	33,095,834	9,808,712	Year	15·6	17·5	17·4	18·1
			March ..	19·8	20·7	18·4	25·5
			June	15·0	17·6	16·4	17·2
			Sept.	12·7	14·9	16·5	13·9
			Dec.	15·0	17·0	18·2	15·8

* For the years prior to 1894 the figures relate to the 33 great Towns; 67 other large Town districts (represented approximately by Registration Districts or Sub-Districts); and all other Registration Sub-Districts, three-fourths of the population of which, as enumerated in 1881, resided within the boundaries of Urban Sanitary Districts existing in 1886.

No. II.—SCOTLAND.

BIRTHS, DEATHS, AND MARRIAGES, IN THE YEAR ENDED 31ST DECEMBER, 1894.

I.—*Serial Table:—Number of* Births, Deaths, *and* Marriages *in Scotland, and their Proportion to the Population estimated to the Middle of each Year, during each Quarter of the Years* **1894-90** *inclusive.*

	1894.		1893.		1892.		1891.		1890.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
***1st Quarter*—**										
Births	30,776	3·03	31,351	3·11	30,311	2·99	31,563	3·17	30,124	2·96
Deaths	20,181	1·98	21,009	2·08	22,462	2·22	22,471	2·26	23,316	2·29
Marriages	6,391	0·63	6,315	0·62	7,257	0·72	6,952	0·70	6,687	0·66
Mean Temperature	39°·2		39°·1		36°·3		38°·2		40°·1	
***2nd Quarter*—**										
Births	31,685	3·08	33,803	3·31	33,195	3·28	33,395	3·31	31,789	3·09
Deaths	17,510	1·70	19,588	1·92	18,623	1·84	20,804	2·07	19,607	1·91
Marriages	7,139	0·69	6,959	0·68	7,168	0·71	7,206	0·72	7,079	0·69
Mean Temperature	48°·6		52°·2		48°·4		47°·9		49°·5	
***3rd Quarter*—**										
Births	30,015	2·89	31,237	3·03	30,424	2·97	30,738	3·02	30,300	2·92
Deaths	15,001	1·44	18,638	1·81	15,622	1·53	16,809	1·65	16,668	1·60
Marriages	6,480	0·62	6,675	0·65	6,684	0·65	6,560	0·64	6,480	0·62
Mean Temperature	54°·9		56°·3		53°·5		55°·7		55°·4	
***4th Quarter*—**										
Births	31,861	3·06	30,599	2·97	31,081	3·03	30,269	2·97	29,317	2·82
Deaths	18,420	1·77	20,406	1·98	18,861	1·84	23,464	2·30	19,387	1·87
Marriages	7,551	0·73	7,141	0·69	7,528	0·74	7,231	0·71	7,195	0·69
Mean Temperature	43°·0		42°·3		39°·6		41°·9		41°·5	
***Year*—**										
Population	4,124,691		4,093,959		4,063,451		4,033,180		4,003,132	
Births	124,337	3·01	127,040	3·10	125,011	3·08	125,965	3·12	121,530	3·04
Deaths	71,112	1·72	79,641	1·95	75,568	1·86	83,548	2·07	78,978	1·97
Marriages	27,561	0·67	27,090	0·66	28,637	0·70	27,949	0·69	27,441	0·69

II.—*Special Average Table:—Number of Births, Deaths, and Marriages in Scotland and in the Town and Country Districts for each Quarter of the Year ending 31st December,* **1894,** *and their Proportion to the Population; also the Number of Illegitimate Births, and their Proportion to the Total Births.*

Registration Groups of Districts.	Total Births.		Illegitimate Births.		Deaths.		Marriages.	
	Number.	Annual Rate per Cent.	Number.	Per Cent. of Total Births.	Number.	Annual Rate per Cent.	Number.	Annual Rate per Cent.
1st Quarter—								
SCOTLAND	30,776	3·03	2,400	7·8	20,181	1·98	6,391	0·63
Principal towns	12,880	3·17	957	7·4	8,467	2·08	3,167	0·78
Large „	4,278	3·26	261	6·1	2,622	2·00	888	0·68
Small „	6,680	3·09	460	6·9	4,091	1·89	1,235	0·57
Mainland rural	6,248	2·69	683	10·9	4,381	1·89	958	0·41
Insular „	690	2·25	39	5·7	620	2·02	143	0·47
2nd Quarter—								
SCOTLAND	31,685	3·08	2,207	7·0	17,510	1·70	7,139	0·69
Principal towns	13,344	3·24	891	6·7	7,658	1·86	3,510	0·85
Large „	4,356	3·28	233	5·3	2,201	1·66	872	0·66
Small „	6,927	3·17	462	6·7	3,619	1·66	1,345	0·62
Mainland rural	6,407	2·73	579	9·0	3,549	1·51	1,350	0·58
Insular „	651	2·10	42	6·5	483	1·56	62	0·20
3rd Quarter—								
SCOTLAND	30,015	2·89	2,232	7·4	15,001	1·44	6,480	0·62
Principal towns	12,425	2·99	895	7·2	6,327	1·52	3,499	0·84
Large „	4,218	3·14	250	5·9	1,982	1·48	928	0·69
Small „	6,540	2·96	468	7·2	3,207	1·45	1,137	0·52
Mainland rural	6,100	2·57	581	9·5	3,084	1·30	867	0·37
Insular „	732	2·33	38	5·2	401	1·28	49	0·16
4th Quarter—								
SCOTLAND	31,861	3·06	2,219	7·0	18,420	1·77	7,551	0·73
Principal towns	13,434	3·23	941	7·0	8,433	2·03	3,472	0·83
Large „	4,421	3·29	258	5·8	2,465	1·84	871	0·65
Small „	6,961	3·15	442	6·3	3,784	1·71	1,490	0·67
Mainland rural	6,326	2·67	549	8·7	3,349	1·41	1,567	0·66
Insular „	719	2·29	29	4·0	389	1·24	151	0·48

Population of Scotland.

Population.	Scotland.	Principal Towns.	Large Towns.	Small Towns.	Mainland Rural.	Insular Rural.
By Census of 1891............	4,025,647	1,583,566	509,952	851,611	954,566	125,952
Estimated to the middle of 1894	4,124,691	1,650,267	532,355	875,877	941,649	124,543

III.—*Divisional Table:*—MARRIAGES, BIRTHS, *and* DEATHS *Registered in the Year ended* 31*st December*, 1894.

(Compiled from the Registrar-General's Quarterly Returns.)

1 DIVISIONS. (Scotland)	2 AREA in Statute Acres.	3 POPULATION, 1891. (*Persons.*)	4 Marriages.	5 Births.	6 Deaths.
		No.	No.	No.	No.
SCOTLAND .... *Totals*	19,639,377	4,025,647	27,561	124,337	71,112
I. Northern	2,261,622	118,237	482	2,454	1,776
II. North-Western	4,739,876	164,262	710	3,946	2,753
III. North-Eastern	2,429,594	433,199	2,922	12,888	6,870
IV. East Midland	2,790,492	630,098	3,987	17,503	10,831
V. West Midland	2,693,176	313,749	1,688	9,463	5,395
VI. South-Western	1,462,397	1,563,097	12,169	55,702	30,003
VII. South-Eastern	1,192,524	599,213	4,511	17,437	10,094
VIII. Southern	2,069,696	203,792	1,092	4,944	3,390

No. III.—GREAT BRITAIN AND IRELAND.

SUMMARY *of* MARRIAGES, *in the Year ended* 30*th September*, 1894; *and of* BIRTHS *and* DEATHS, *in the Year ended* 31*st December*, 1894.

(Compiled from the Quarterly Returns of the respective Registrars-General.)

COUNTRIES.	[000's omitted.] Area in Statute Acres.	[000's omitted.] Population, 1891. (*Persons.*)	Marriages.	Per 1,000 of Population.	Births.	Per 1,000 of Population.	Deaths.	Per 1,000 of Population.
		No.	No.	Ratio.	No.	Ratio.	No.	Ratio.
England and Wales	37,239,	29,003,	222,106	7·7	889,242	30·7	498,515	17·2
Scotland	19,639,	4,026,	27,151	6·7	124,337	30·9	71,112	17·7
Ireland	20,323,	4,705,	21,240	4·5	105,285	22·4	83,513	17·7
GREAT BRITAIN AND IRELAND	77,201,	37,734,	270,497	7·2	1,118,864	29·7	653,140	17·3

Trade of United Kingdom, 1894-93-92.—*Distribution of* **Exports*** *from United Kingdom according to their Declared Real Value; and the Declared Real Value (Ex-duty) of* **Imports** *at Port of Entry, and therefore including Freight and Importer's Profit.*

[000's omitted.]

Merchandise (*excluding Gold and Silver*) Imported from, and Exported to, the following Foreign Countries, &c.	1894.		1893.		1892.	
	Imports from	*Exports to*	Imports from	*Exports to*	Imports from	*Exports to*
I.—FOREIGN COUNTRIES.	£	£	£	£	£	£
Northern Europe; viz., Russia, Sweden, Norway, Denmark and Iceland	44,885,	14,382,	39,498,	13,367,	34,971,	12,548
Central Europe; viz., Germany, Holland, and Belgium	71,752,	34,383,	72,065,	34,076,	71,562,	33,362
Western Europe; viz., France, Portugal (with Azores, Madeira, &c.), and Spain (with Gibraltar and Canaries)	56,633,	20,050,	56,823,	19,909,	58,305,	21,892
Southern Europe; viz., Italy, Austrian empire, Greece, Roumania, Bulgaria, & Malta	10,005,	10,181,	10,391,	9,195,	9,477,	9,897
Levant; viz., Turkey, Asiatic and European (including Cyprus), and Egypt	14,156,	10,518,	13,824,	9,134,	16,448,	9,383
Northern Africa; viz., Tripoli, Tunis, Algeria and Morocco	1,369,	1,187,	1,322,	868,	1,429,	1,063
Western Africa	394,	891,	406,	853,	417,	1,078
Eastern Africa; with African Ports on Red Sea, Aden, Arabia, Persia, Bourbon, and Kooria Mooria Islands	835,	1,120,	614,	1,132,	844,	934
Indian Seas, Siam, Sumatra, Java, Philippines; other Islands	2,464,	2,949,	3,822,	3,144,	4,166,	3,157
South Sea Islands	78,	108,	79,	79,	68,	64
China and Japan, including **Hong Kong**	5,149,	9,995,	5,833,	9,921,	5,232,	10,563
United States of America	89,903,	18,807,	91,784,	23,958,	108,186,	26,546
Mexico and Central America	1,526,	2,210,	1,782,	1,847,	1,543,	2,128
Foreign West Indies, Hayti, &c.	381,	1,797,	255,	2,032,	175,	2,213
South America (Northern), New Granada, Venezuela, and Ecuador	919,	1,919,	921,	2,177,	842,	1,732
" **(Pacific)**, Peru, Bolivia, Chili, and Patagonia	4,732,	2,763,	5,197,	3,176,	5,445,	4,498
" **(Atlantic)** Brazil, Uruguay, and Argentine Republic	10,380,	13,544,	9,604,	14,809,	8,342,	14,844
Whale Fisheries; Grnlnd., Davis' Straits, Southn. Whale Fishery, Falkland Islands, and French Possessions in North America	198,	42,	232,	34,	122,	40
Total—Foreign Countries	315,759,	146,846,	314,452,	149,711,	327,574,	155,947
II.—BRITISH POSSESSIONS.						
British India, Ceylon, and Singapore	36,383,	32,609,	35,005,	31,433,	39,327,	30,940
Austral. Cols.—N. So. W., Victoria & Queensld.	19,872,	10,520,	18,638,	9,518,	19,159,	13,086
" " So. Aus., W. Aus., Tasm., N. Zealand, & Fiji Islands	12,004,	5,563,	11,237,	5,566,	11,384,	6,190,
British North America	12,960,	6,329,	13,344,	7,201.	14,566,	7,428,
" W. Indies with Btsh. Guiana & Honduras	3,032,	3,072,	2,823,	3,354,	3,134,	3,112,
Cape and Natal	4,989,	8,365,	5,550,	8,584,	5,463,	7,929,
Brt. W. Co. of Af., Ascension and St. Helena	1,975,	1,717,	2,163,	1,642,	1,788,	1,407,
Mauritius	224,	275,	250,	305,	230,	270,
Channel Islands	1,220,	898,	1,226,	781,	1,169,	768,
Total—British Possessions	92,659,	69,348,	90,236,	68,384,	96,220,	71,130,
General Total £	408,418,	216,794,	404,688,	218,095,	423,794,	227,077,

* *i.e.*, British and Irish produce and manufactures.

Trade of United Kingdom, for the Years 1893-89.—*Declared Value of the Total Exports of* **Foreign** *and* **Colonial** *Produce and Manufactures to each Foreign Country and British Possession.*

Merchandise Exported to the following Foreign Countries, &c.	[000's omitted.] 1893.	1892.	1891.	1890.	1889.
I.—FOREIGN COUNTRIES.	£	£	£	£	£
Northern Europe; viz., Russia, Sweden, Norway, Denmark, & Iceland	6,093,	5,648,	4,897,	5,507,	5,660,
Central Europe; viz., Germany, Holland and Belgium	22,641,	24,724,	22,564,	23,504,	25,735,
Western Europe; viz., France, Portugal (with Azores, Madeira, &c.), and Spain (with Gibraltar and Canaries)	7,582,	7,723,	8,940,	9,459,	8,879,
Southern Europe; viz., Italy, Austrian Empire, Greece, Ionian Islands, and Malta	1,367,	1,309,	1,153,	1,356,	1,478,
Levant; viz., Turkey, Roumania, Syria and Palestine, and Egypt	558,	670,	694,	727,	705,
Northern Africa; viz., Tripoli, Tunis, Algeria, and Morocco	126,	129,	145,	128,	151,
Western Africa	89,	86,	106,	180,	149,
Eastern Africa; with African Ports on Red Sea, Aden, Arabia, Persia, Bourbon, and Kooria Mooria Islands	17,	22,	—	—	—
Indian Seas, Siam, Sumatra, Java, Philippines; other Islands	91,	69,	52,	54,	88,
South Sea Islands	—	—	—	—	—
China, including **Hong Kong** and Japan	446,	523,	448,	478,	524,
United States of America	11,758,	14,865,	13,522,	14,272,	13,585,
Mexico and Central America	136,	197,	321,	157,	157,
Foreign West Indies and Hayti	983,	1,316,	1,024,	1,055,	963,
South America (Northern), New Granada, Venezuela and Ecuador	77,	134,	116,	92,	99,
" **(Pacific)**, Peru, Bolivia, Chili, and Patagonia	290,	394,	293,	347,	412,
" **(Atlantic)**, Brazil, Uruguay, and Argentine Confed.	453,	501,	464,	491,	795,
Other countries (unenumerated)	80,	81,	181,	184,	145,
Total—Foreign Countries	52,787,	58,391,	54,920	57,986,	59,525,
II.—BRITISH POSSESSIONS.					
British India, Ceylon, and Singapore	1,295,	1,303,	1,542,	1,774,	1,540,
Austral. Cols.—New South Wales and Victoria, So. Aus., W. Aus., Tasm., and N. Zealand	1,897,	2,247,	2,756,	2,464,	2,742,
British North America	1,361,	1,101,	1,054,	1,047,	1,286,
" W. Indies with Btsh. Guiana & Honduras	447,	378,	458,	420,	388,
Cape and Natal	771,	665,	681,	675,	802,
Brt. W. Co. of Af., Ascension and St. Helena	213,	213,	181,	89,	79,
Mauritius	36,	21,	20,	26,	29,
Channel Islands	203,	210,	216,	193,	209,
Other possessions	33,	34,	51,	48,	57,
Total—British Possessions	6,256,	6,172,	6,959,	6,736,	7,132,
General Total £	59,043,	64,563,	61,879,	64,722,	66,657,

IMPORTS.—(United Kingdom.)—**For the Years 1894-93-92-91-90.**—*Declared Real Value (Ex-duty), at Port of Entry (and therefore including Freight and Importer's Profit), of Articles of Foreign and Colonial Merchandise Imported into the United Kingdom.*

[000's omitted.]

Foreign Articles Imported.		1894.	1893.	1892.	1891.	1890.
		£	£	£	£	£
Raw Matls.–*Textile*, &c.	Cotton, Raw ...	32,944,	30,685,	37,888,	46,081,	42,757,
	Wool	26,511,	26,323,	28,451,	29,729,	28,586,
	Silk*...................	15,084,	14,064,	13,367,	14,148,	14,032,
	Flax	2,526,	2,518,	2,743,	2,772,	2,856,
	Hemp and Jute	6,514,	5,788,	6,354,	7,339,	7,868,
	Indigo	1,149,	1,389,	1,357,	1,043,	1,521,
		84,728,	80,767,	90,160,	101,112,	97,620,
" " *Various.*	Hides	2,230,	2,181,	2,085,	2,437,	2,514,
	Oils	2,906,	2,703,	2,539,	2,639,	2,468,
	Metals	17,087,	18,939,	19.320,	21,123,	23,711,
	Tallow	2,345,	2,162,	1,748,	1,772,	1,729,
	Timber...............	17,147,	15,387,	17,152,	14,924,	17,127,
		41,715,	41,372,	42,844,	42,895,	47,549,
" " *Agrcltl.*	Guano	144,	95,	189,	139,	167.
	Seeds	7,125,	7,020,	7,044,	7,554,	6,872,
		7,269,	7,115,	7,233,	7,693,	7,039,
Tropical, &c., Produce.	Tea	9,840,	10,125,	10,047,	10,733,	9,998,
	Coffee and Chic...	3,593,	4,049,	3,990,	3,495,	4,058,
	Sugar & Molasses	19,375,	22,239,	19,949,	20,030,	18,261,
	Tobacco	3,513,	3,549,	3,538,	3,424,	3,543,
	Rice	1,979,	2,140,	2,789,	2,799,	2,549,
	Fruits	7,259,	6,014,	7,148,	7,007,	6,723,
	Wines	5,020,	5,302,	6,020,	5,985,	5,891,
	Spirits	2,139,	1,899,	2,187,	2,277,	2,128,
		52,718,	55,317,	55,668,	55,750,	53,151.
Food	Grain and Meal.	48,224,	51,180,	58,733,	62,022,	53,045,
	Provisions	53,898,	53,270,	52,232,	48,146,	51,198,
		102,122,	104,450,	110,965,	110,168,	104,243,
Remainder of Enumerated Articles		73,126,	69,537,	71,574,	72,087,	66,517,
Total Enumerated Imports		361,678,	358,558,	378,444,	389,705,	376,119,
Add for **Unenumerated Imports** (say)		46,828,	46,130,	45,350,	45,736,	44,767,
Total Imports		408,506,	404,688,	423,794,	435,441,	420,886,

* "Silk," inclusive of manufactured silk, "not made up."

EXPORTS.—(United Kingdom.)—**For the Years 1894-93-92-91-90.**—*Declared Real Value, at Port of Shipment, of Articles of* BRITISH *and* IRISH *Produce and Manufactures Exported from the United Kingdom.*

[000's omitted.]

BRITISH PRODUCE, &c., EXPORTED.		1894.	1893.	1892.	1891.	1890.
		£	£	£	£	£
MANFRS.—*Textile.*	Cotton Manufactures ..	57,297,	54.699,	56,266,	60,230,	62,079,
	,, Yarn	9,289,	9,055,	9,693,	11,177,	12,352,
	Woollen Manufactures	14,036,	16,404,	17,907,	18,447,	20,422,
	,, Yarn	5,976,	6,027,	5,276,	5.046,	4,089,
	Silk Manufactures........	1,222,	1,515,	1,655,	1,745,	2,230,
	,, Yarn	351,	383,	323,	516,	478,
	Linen Manufactures	4,505,	4,775,	5,166,	5,032,	5,716,
	,, Yarn	938,	1,005,	890,	899,	866,
		93,614,	93,863,	97,176,	103,092,	108,232,
,, *Sewed.*	Apparel	4,131,	4,260,	4,847,	5,151,	5,036,
	Haberdy. and Mllnry.	1,242,	1,492,	1,758,	2,000,	2,113,
		5,373,	5,752,	6,605,	7,151,	7,149,
METALS, &c.	Hardware	1,838,	2,047,	2,195,	2,528,	2,765,
	Machinery	14,265,	13,917,	13,887,	15,818,	16,413,
	Iron	18,731,	20,593,	21,766,	26,877,	31,582,
	Copper and Brass........	2,772,	3,480,	4,218,	4.345,	5,058,
	Lead and Tin	951,	1,159,	1,253,	1.174,	1,315,
	Coals and Culm	17,376,	14,375,	16,811,	18,895,	19,020,
		55,933,	55,571,	60,130,	69,637,	76,153,
Ceramic Manufcts.	Earthenware and Glass	2,475,	2,751,	2,942,	3,121,	3,113,
Indigenous Mnfrs. and Products.	Beer and Ale...............	1,464,	1,509,	1,652,	1,695,	1,877,
	Butter	98,	86,	82,	124,	138,
	Cheese	40,	44,	45,	47,	48,
	Candles	331,	353,	344,	314,	262,
	Salt..............................	604,	504,	539,	596,	653,
	Spirits	1,363,	1,196,	1,367,	1,296,	1,250,
		3,900,	3,692,	4,029,	4,072,	4,228,
Various Manufcts.	Books, Printed	1,222,	1,262,	1,290,	1,389,	1,325,
	Furniture	423,	521,	533,	592,	647,
	Leather Manufactures	3,126,	3,392,	3,758,	4,229,	4,279,
	Soap	622,	644,	586,	571,	535,
	Plate and Watches	307,	301,	322,	391,	404,
	Stationery	798,	816,	865,	916,	968,
		6,498,	6,936,	7,354,	8,088,	8,158,
Remainder of Enumerated Articles		34,863,	35,528,	35,358,	37,656,	42,354,
Unenumerated Articles..............................		13,538,	14,002,	13,483,	14,418,	14,156,
TOTAL EXPORTS....................		216,194,	218,095,	227,077,	247,235,	263,543,

SHIPPING.—(United Kingdom.)—*Account of Tonnage of Vessels Entered and Cleared with Cargoes, from and to Various Countries, during the* **Years** *ended December*, 1894-93-92.

Countries from whence Entered and to which Cleared.	Total British and Foreign.					
	1894.		1893.		1892.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
FOREIGN COUNTRIES.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Russia { Northern ports	1,756,436	1,451,504	1,463,306	1,344,850	1,380,682	1,165,695
Russia { Southern „	1,310,531	214,770	850,572	187,017	508,025	180,556
Sweden	1,688,383	1,416,269	1,587,617	1,267,113	1,628,177	1,305,803
Norway	1,211,365	944,554	1,200,254	866,265	1,283,800	881,267
Denmark................	345,058	1,143,685	347,838	1,082,987	354,183	1,074,116
Germany................	2,014,221	3,618,540	1,793,327	3,481,511	1,948,003	3,464,223
Holland	2,185,165	2,003,657	2,069,284	1,876,389	2,017,965	1,951,566
Belgium	1,697,728	1,521,238	1,571,819	1,409,545	1,466,255	1,487,994
France................	2,287,432	3,872,900	2,205,266	3,760,985	2,231,548	3,986,037
Spain	2,773,225	1,381,314	2,604,824	1,344,780	2,533,505	1,382,630
Portugal	143,105	436,161	131,863	386,912	129,090	421,351
Italy	204,146	2,696,027	228,034	2,303,148	228,994	2,276,135
Austrian territories	93,179	181,194	66,904	181,863	43,290	157,688
Greece................	147,597	184,180	134,847	116,586	120,508	148,057
Turkey	261,118	461,053	290,881	386,871	318,875	355,741
Roumania	418,375	218,543	430,286	207,823	260,962	184,346
Egypt	412,965	946,792	364,843	830,476	435,922	933,350
United States of America	5,522,133	3,849,392	5,305,023	3,608,863	6,109,057	3,937,828
Mexico, Foreign West Indies, and Central America	72,396	364,832	60,302	343,752	50,576	399,203
Brazil	156,207	915,006	152,925	794,566	135,102	839,743
Peru................	65,156	72,961	83,921	86,596	55,205	62,896
Chili	227,628	379,559	215,903	314,111	259,206	326,121
Argentine Republic	717,755	689,351	477,466	596,258	447,556	623,185
China	131,703	85,594	143,077	34,027	125,887	31,262
Other countries	648,434	1,223,189	664,517	1,050,354	775,362	1,004,365
Total, Foreign Countries	26,491,441	30,272,265	24,444,899	27,863,648	24,847,735	28,581,158
BRITISH POSSESSIONS.						
North American Colonies	1,449,626	765,424	1,485,661	815,919	1,592,250	806,539
East Indies, including Ceylon, Singapore, and Mauritius	1,346,966	1,948,197	1,196,488	1,787,192	1,376,070	1,922,644
Australia and New Zealand	849,872	821,296	773,150	723,892	772,887	831,733
West Indies	118,974	246,269	96,797	253,583	103,034	274,351
Channel Islands................	384,571	313,402	358,108	269,588	407,244	280,127
Other possessions	499,676	1,410,879	440,633	1,238,629	430,649	1,247,273
Total, British Possessions	4,649,685	5,505,467	4,350,837	5,088,803	4,682,134	5,362,667
TOTAL FOREIGN COUNTRIES AND BRITISH POSSESSIONS.						
Twelve Months ended December, { 1894........	31,141,126	35,777,732	—	—	—	—
Twelve Months ended December, { '93	—	—	28,795,736	32,952,451	—	—
Twelve Months ended December, { '92........	—	—	—	—	29,529,869	33,943,825

GOLD AND SILVER BULLION AND SPECIE.—(United Kingdom.) —*Declared Real Value of,* IMPORTED AND EXPORTED *for the* **Years 1894-93-92.**

[000's omitted.]

Countries.	1894.		1893.		1892.	
	Gold.	*Silver.*	Gold.	*Silver.*	Gold.	*Silver.*
Imported from—	£	£	£	£	£	£
Australia	4,853,	139,	3,707,	155,	3,157,	273
S. America, Brazil, Mexico, W. Indies	1,592,	1,739,	2,514,	1,871,	2,370,	2,001,
United States	3,247,	7,247,	4,232,	7,268,	1,050,	5,303,
	9,692,	9,125,	10,453,	9,294,	6,577,	7,577,
France	1,008,	733,	1,691,	1,387,	1,111,	1,336,
Germany, Holland, Belg., and Sweden	1,448,	491,	1,716,	761,	506,	1,296,
Portugal, Spain, and Gibraltar	941,	32,	1,390,	70,	2,264,	118,
Malta and Egypt	1,084,	30,	1,082,	33,	580,	12,
China, with Hong Kong and Japan	2,430,	40,	1,623,	—	2,895,	151,
West Coast of Africa	160,	86,	158,	22,	207,	38,
All other Countries	10,818,	469,	6,722,	346,	7,443,	218,
Totals Imported	27,581,	11,006,	24,835,	11,913,	21,583,	10,746,
Exported to—						
France	6,471,	501,	786,	373,	3,819,	151,
Germany, Holland, Belg. & Sweden	5,826,	881,	7,126,	887,	6,844,	402,
Portugal, Spain, and Gibraltar	385,	24,	616,	28,	1,215,	879,
	12,682,	1,406,	8,528,	1,288,	11,878,	1,432,
B. India, China, Hong Kong and Japan	434,	10,041,	917,	11,639,	174,	11,875,
United States	300,	2,	5,917,	3,	132,	18,
South Africa	235,	109,	—	47,	—	4,
S. America, Brazil, Mexico, W. Indies	1,203,	203,	777,	126,	1,510,	417,
All other Countries	794,	410,	3,363,	487,	1,138,	333,
Totals Exported	15,648,	12,171,	19,502,	13,590,	14,832,	14,079,
Excess of imports	11,933,	—	5,333,	—	6,751,	—
" exports	—	1,165,	—	1,677,	—	3,333,

BRITISH CORN.—*Gazette Average Prices* (England and Wales), *Weekly for* 1894.

Weeks ended on Saturday.	Weekly Average. (Per Imperial Quarter.)						Weeks ended on Saturday.	Weekly Average. (Per Imperial Quarter.)					
	Wheat.		Barley.		Oats.			Wheat.		Barley.		Oats.	
1894.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	1894.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Jan. 6	26	4	28	10	17	8	July 7	24	6	23	7	19	6
„ 13	26	4	28	10	18	–	„ 14	24	5	21	–	19	7
„ 20	26	3	29	2	18	–	„ 21	24	6	19	6	19	7
„ 27	26	1	29	1	18	–	„ 28	24	8	22	5	20	5
Feb. 3	25	7	28	11	18	1	Aug. 4	24	4	21	4	19	8
„ 10	25	3	28	8	17	10	„ 11	24	4	21	4	19	9
„ 17	24	10	28	3	18	–	„ 18	24	5	16	5	18	9
„ 24	24	5	28	–	18	4	„ 25	24	1	22	3	17	8
March 3	24	3	27	5	18	5	Sept. 1	22	7	24	1	17	1
„ 10	24	3	27	–	18	4	„ 8	21	7	24	11	16	6
„ 17	24	3	27	5	18	4	„ 15	20	5	23	9	15	9
„ 24	24	4	26	11	18	1	„ 22	19	8	23	5	15	2
„ 31	24	6	27	1	18	–	„ 29	18	9	23	5	14	3
April 7	24	6	26	7	18	3	Oct. 6	18	2	23	7	14	–
„ 14	24	7	27	10	18	2	„ 13	17	7	23	10	13	5
„ 21	24	8	28	6	18	4	„ 20	17	6	23	11	13	6
„ 28	24	10	26	8	18	3	„ 27	17	7	23	8	13	3
May 5	24	10	26	1	18	7	Nov. 3	18	–	23	8	13	6
„ 12	24	9	24	11	18	9	„ 10	18	4	23	–	13	7
„ 19	24	5	25	–	18	9	„ 17	19	1	22	7	13	10
„ 26	24	4	24	–	18	10	„ 24	19	11	22	4	14	3
June 2	23	11	23	11	18	9	Dec. 1	20	7	22	–	14	3
„ 9	23	9	26	11	18	6	„ 8	20	7	21	10	14	4
„ 16	23	10	24	11	18	9	„ 15	20	10	21	5	14	3
„ 23	23	11	22	5	18	10	„ 22	20	9	21	3	13	11
„ 30	24	1	20	5	19	2	„ 29	20	5	20	10	13	9

BRITISH CORN.—*Gazette Average Prices* (ENGLAND AND WALES), *Summary of, for* **1894**, *with those for* **1893** *added for Comparison.*

Average for	Per Imperial Quarter, 1894.						Per Imperial Quarter, 1893.					
	Wheat.		Barley.		Oats.		Wheat.		Barley.		Oats.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
January	26	3	28	11	17	11	26	3	25	4	16	11
February	25	–	28	5	18	–	25	9	25	1	17	9
March	24	3	27	2	18	2	24	10	25	2	18	2
First quarter	25	2	28	2	18	–	25	7	25	2	17	7
April	24	7	27	3	18	3	25	1	24	10	18	6
May	24	7	25	–	18	8	26	8	23	8	19	5
June	23	11	23	8	18	9	27	1	23	5	20	8
Second quarter	24	4	25	4	18	7	26	3	24	–	19	6
July	24	6	21	7	19	9	26	7	21	4	21	7
August	24	3	20	4	18	11	26	2	23	2	19	11
September	20	7	23	11	15	9	26	3	27	6	17	9
Third quarter	23	1	21	11	18	2	26	4	24	–	19	9
October	17	8	23	9	13	6	27	7	29	4	18	0
November	18	10	22	10	13	9	27	3	29	1	18	2
December	20	7	21	5	14	1	26	8	28	11	18	1
Fourth quarter	19	–	22	8	13	9	27	2	29	1	18	1
THE YEAR	22	11	24	6	17	2	26	4	25	7	18	9

BANK OF ENGLAND

Pursuant to the Act 7th and 8th Victoria, cap. 32 (1844)

[0,000's omitted.]

1	2	3	4	5	6	7
ISSUE DEPARTMENT.					COLLATERAL COLUMNS.	
Liabilities.		Assets.				
Notes Issued.	DATES. (Wednesdays.)	Government Debt.	Other Securities.	Gold Coin and Bullion.	Notes in Hands of Public. (Col. 1 minus col. 16.)	Minimum Rates of Discount at Bank of England.
£ Mlns.	1894.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	Per cent.
						(End of 1893) 3
39,33	Jan. 3	11,02	5,43	22,88	25,75	
40,25	„ 10	11,02	5,43	23,80	25,36	
40,96	„ 17	11,02	5,43	24,51	25,03	
41,70	„ 24	11,02	5,43	25,25	24,57	
42,26	„ 31	11,02	5,43	25,81	24,73	31 Jan. 2½
42,66	Feb. 7	11,02	5,43	26,21	24,46	
43,12	„ 14	11,02	5,43	26,67	24,16	
44,17	„ 21	11,02	5,78	27,37	23,95	21 Feb. 2
44,41	„ 28	11,02	5,78	27,61	24,31	
44,73	Mar. 7	11,02	5,78	27,93	24,23	
45,03	„ 14	11,02	5,78	28,23	24,03	
44,97	„ 21	11,02	5,78	28,17	24,53	
45,18	„ 28	11,02	5,78	28,38	24,48	
45,31	April 4	11,02	5,78	28,51	25,17	
45,61	„ 11	11,02	5,78	28,81	25,03	
45,77	„ 18	11,02	5,78	28,97	24,86	
46,20	„ 25	11,02	5,78	29,40	24,92	
46,30	May 2	11,02	5,78	29,50	25,50	
46,67	„ 9	11,02	5,78	29,87	25,34	
47,46	„ 16	11,02	5,78	30,66	25,06	
48,56	„ 23	11,02	5,78	31,76	24,76	
50,41	„ 30	11,02	5,78	33,61	24,92	
51,45	June 6	11,02	5,78	34,65	24,97	
52,19	„ 13	11,02	5,78	35,39	24,92	
53,23	„ 20	11,02	5,78	36,43	24,83	
53,66	„ 27	11,02	5,78	36,86	25,44	
53,29	July 4	11,02	5,78	36,49	26,40	
52,93	„ 11	11,02	5,78	36,13	26,05	
52,96	„ 18	11,02	5,78	36,16	26,02	
53,12	„ 25	11,02	5,78	36,32	25,81	
52,73	Aug. 1	11,02	5,78	35,93	26,36	
52,86	„ 8	11,02	5,78	36,06	26,24	
53,24	„ 15	11,02	5,78	36,44	25,96	
53,98	„ 22	11,02	5,78	37,18	25,46	
54,31	„ 29	11,02	5,78	37,51	25,38	
54,28	Sept. 5	11,02	5,78	37,48	25,72	
54,26	„ 12	11,02	5,78	37,46	25,53	
53,97	„ 19	11,02	5,78	37,17	25,26	
53,15	„ 26	11,02	5,78	36,35	25,51	
51,88	Oct. 3	11,02	5,78	35,08	26,37	
51,15	„ 10	11,02	5,78	34,35	26,01	
50,90	„ 17	11,02	5,78	34,10	25,78	
50,95	„ 24	11,02	5,78	34,15	25,43	
50,35	„ 31	11,02	5,78	33,55	25,78	
49,37	Nov. 7	11,02	5,78	32,57	25,51	
49,66	„ 14	11,02	5,78	32,86	25,44	
49,16	„ 21	11,02	5,78	32,36	25,11	
49,15	„ 28	11,02	5,78	32,35	25,02	
48,57	Dec. 5	11,02	5,78	31,77	25,25	
48,13	„ 12	11,02	5,78	31,33	25,17	
47,80	„ 19	11,02	5,78	31,00	25,32	
47,06	„ 26	11,02	5,78	30,26	25,67	

—Weekly Return.

for Wednesday in each Week, during the Year **1894.**

[0,000's omitted.]

8	9	10	11	12	13	14	15	16	17	18
Banking Department.										
Liabilities.						Assets.				Totals of Liabilities and Assets.
Capital and Rest.		Deposits.		Seven Day and other Bills.	Dates. (Wednesdys.)	Securities.		Reserve.		
Capital.	Rest.	Public.	Private.			Government.	Other.	Notes.	Gold and Silver Coin.	
£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	1894.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.
14,55	3,24	6,24	31,15	,14	Jan. 3	10,39	29,38	13,58	1,97	55,32
14,55	3,43	4,89	31,35	,16	" 10	11,76	25,71	14,89	2,02	54,38
14,55	3,44	5,33	30,43	,18	" 17	10,76	25,21	15,93	2,03	53,93
14,55	3,46	5,81	29,40	,19	" 24	9,36	24,79	17,13	2,13	53,41
14,55	3,45	6,30	29,46	,18	" 31	8,96	25,25	17,53	2,21	53,95
14,55	3,51	7.28	27,84	,20	Feb. 7	9.03	23,42	18,20	2,24	52,88
14,55	3,52	8,09	27,84	,17	" 14	9,29	23,61	18,96	2,31	54,17
14,55	3,53	9,50	27,87	,17	" 21	8,94	24,08	20,22	2,38	55,62
14,55	3.67	10,14	29,47	,16	" 28	8,94	26,53	20,10	2,42	57,99
14,55	3.67	10.44	27,31	,20	Mar. 7	8,93	24,34	20,50	2,40	56,17
14,55	3 67	10,39	28,16	,16	" 14	8,93	24,48	21,00	2,52	56,93
14,55	3.70	12,03	28,57	,18	" 21	8,93	27,20	20,44	2,46	59,04
14,55	3,71	12,86	29,12	,14	" 28	8,93	28,34	20,70	2,41	60,38
14,55	3,09	11,47	28,69	,17	April 4	8,93	26,52	20,14	2,38	57,97
14,55	3,11	8,37	29,12	,16	" 11	9,38	22,96	20,58	2,41	55,32
14,55	3,11	8,20	28,55	,15	" 18	9,38	21,84	20,91	2,43	54,56
14,55	3,11	7,08	28,85	,14	" 25	9,38	20,64	21,28	2,44	53,73
14,55	3,08	7,01	29,52	,16	May 2	9.46	21,64	20,80	2,44	54,33
14,55	3,09	7,04	29,33	,15	" 9	9,73	20,79	21,33	2,33	54,16
14,55	3.09	7,63	29,76	,13	" 16	9,89	20,52	22,40	2,35	55,17
14,55	3,09	8,57	30,39	,14	" 23	9,89	20,56	23,80	2,49	56,75
14,55	3,04	8,79	31,58	,16	" 30	9,89	20,30	25,49	2,44	58,12
14,55	3,05	8,71	32,53	,20	June 6	9,89	20,25	26,48	2,41	59,03
14,55	3,05	8,90	33,02	,17	" 13	9,89	20,07	27,27	2,46	59,69
14,55	3,05	9,21	34,40	,17	" 20	10,07	20,46	28.40	2,45	61,38
14,55	3,05	8,55	34,57	,15	" 27	10,12	20,09	28,22	2,45	60,88
14,55	3,13	10,94	34,94	,17	July 4	13,12	21,34	26,89	2,41	63,76
14,55	3,24	7,51	36,69	,20	" 11	12,97	19,96	26,88	2,38	62,19
14,55	3,26	6,52	37,64	,19	" 18	12,77	20,09	26,94	2,35	62,15
14,55	3,26	6,20	38,13	,17	" 25	12,67	20,00	27,31	2,34	62,32
14,55	3,29	5,96	37,33	,17	Aug. 1	12.67	19,90	26,37	2,37	61,31
14,55	3,30	5,75	37,59	,19	" 8	12,67	19,76	26,62	2,33	61,38
14,55	3,39	5,19	38,29	,16	" 15	12.47	19,46	27,28	2,36	61,57
14,55	3,40	5.94	38.65	,16	" 22	12,15	19,61	28,52	2,42	62,70
14,55	3,34	5,51	38,92	,13	" 29	11,85	19,29	28,93	2,38	62,44
14,55	3.60	4,44	39,39	,14	Sept. 5	11.74	19,49	28,56	2,34	62,13
14,55	3,60	4,03	39,95	,17	" 12	11,54	19,63	28.73	2,40	62,30
14,55	3,62	4,42	39,44	,16	" 19	11,34	19,74	28,71	2,40	62,20
14,55	3,62	4,37	37,75	,16	" 26	11,24	19,21	27,64	2,36	60,45
14,55	3,62	4,34	36,44	,18	Oct. 3	12,24	19,01	25,51	2,38	59,14
14,55	3,10	5,27	39,34	,17	" 10	15,94	18,85	25,14	2,50	62,43
14,55	3.10	5,22	39,48	,13	" 17	15,87	18,94	25,12	2,55	62,48
14,55	3,10	5,40	39,06	,13	" 24	15.34	18,78	25,52	2,60	62,24
14,55	3,09	5,55	37,79	,14	" 31	15,27	18,65	24,57	2,63	61,11
14,55	3.10	5,39	37,01	,17	Nov. 7	15,30	18,47	23,86	2,59	60,22
14,55	3,10	5,47	37,12	,13	" 14	15,16	18,30	24,22	2,69	60,37
14,55	3,10	5,39	35,78	,13	" 21	13,66	18,59	24,05	2,65	58,96
14,55	3,08	5,60	35,18	,15	" 28	13,46	18,36	24,13	2,61	58,56
14,55	3,15	5,14	35,13	,18	Dec. 5	14,13	18,28	23,32	2,42	58,15
14,55	3,16	5,00	34,93	,15	" 12	13,99	18,44	22,96	2,41	57,79
14,55	3,16	4,74	34,13	,14	" 19	13,19	18,70	22,48	2,36	56,72
14,55	3,17	4,27	32,82	,14	" 24	12,79	18,48	21,39	2,28	54,94

REVENUE OF THE UNITED KINGDOM.

Net Produce in QUARTERS *and* YEARS *ended* 31*st* DEC., 1894-93-92-91.

[000's omitted.]

QUARTERS, ended 31st Dec.	1894.	1893.	1894.		Corresponding Quarters.	
			Less.	More.	1892.	1891.
	£	£	£	£	£	£
Customs	5,622,*	5,518,*	—	104,	5,617,*	5,497,*
Excise	7,680,*	7,200,*	—	480,	7,350,*	7,342,*
Stamps	3,880,*	3,160,*	—	720,	3,480,*	3,200,*
Taxes	25,	30,	5,	--	35,	25,
Post Office	2,730,	2,670,	—	60,	2,630,	2,560,
Telegraph Service	615,	620,	5,	—	615,	645,
	20,552,	19,198,	10,	1,364,	19,757,	19,269,
Property Tax	1,340,	1,240,	—	100,	1,170,	1,110,
	21,892,	20,438,	10,	1,464,	20,927,	20,379,
Crown Lands	160,	160,	—	—	160,	160,
Interest on Advances	9,	109,	100,	—	110,	111,
Miscellaneous	387,	501,	114,	—	582,	914,
Totals	22,448,	21,208,	224,	1,464,	21,779,	21,564,
			NET INCR. £1,240,			

YEARS, ended 31st Dec.	1894.	1893.	1894.		Corresponding Years.	
			Less.	More.	1892.	1891.
	£	£	£	£	£	£
Customs	20,050,*	19,508,*	—	542,	19,818,*	19,587,*
Excise	25,980,*	25,030,*	—	950,	25,748,*	24,710,*
Stamps	13,972,*	12,730,*	—	1,242,	14,090,*	12,885,*
Taxes	2,482,	2,433,	—	49,	2,449,	2,420,
Post Office	10,570,	10,470,	—	100,	10,300,	10,030.
Telegraph Service	2,570,	2,510,	—	60,	2,495,	2,450,
	75,624,	72,681,	—	2,943,	74,900,	72,082,
Property Tax	15,628,	13,640,	—	1,988,	13,575,	13,325.
	91,252,	86,321,	—	4,931,	88,475,	85,407,
Crown Lands	420,	430,	10,	—	430,	430,
Interest on Advances	134,	219,	85,	—	220,	222,
Miscellaneous	2,197,	1,583,	—	614,	2,171,	2,893.
Totals	94,003,	88,553,	95,	5,545,	91,296,	88,952,
			NET INCR. £5,450,			

* Exclusive of transfers to local taxation account.

LONDON CLEARING; CIRCULATION, PRIVATE AND PROVINCIAL.

The London Clearing, and the Average Amount of Promissory Notes in Circulation in ENGLAND *and* WALES *on Saturday in each Week during the Year* **1894**; *and in* SCOTLAND *and* IRELAND, *at the Dates, as under.*

[0,000's omitted.]

ENGLAND AND WALES.					SCOTLAND.				IRELAND.		
DATES. *Saturday.*	*London:* Cleared in each Week on the preceding *Wednesday.*	59 Private Banks. (Fixed Issues, 2,32).	36 Joint Stock Banks. (Fixed Issues, 2,00).	TOTAL. (Fixed Issues, 4,32).	Average for Four Weeks ending	£5 and upwards	Under £5.	TOTAL. (Fixed Issues, 2,68).	£5 and upwards	Under £5.	TOTAL. (Fixed Issues, 6,35).
1894.	£	£	£	£	1893.	£	£	£	£	£	£
Jan. 6......	156,33	77	1,13	1,90	Dec. 30...	2,14	4,68	6,82	3,71	2,83	6,54
" 13......	117,88	78	1,13	1,91							
" 20......	133,23	76	1,12	1,88							
" 27......	121,95	75	1,10	1,85	1894. Jan. 27...	1,95	4,27	6,22	3,64	2,69	6,33
Feb. 3......	135,93	74	1,09	1,83							
" 10......	125,95	73	1,09	1,82							
" 17......	131,82	72	1,08	[illegible]							
" 24......	121,31	71	1,07	1,77	Feb. 24...	1,88	4,22	6,10	3,63	2,62	6,25
Mar. 3......	138,39	70	1,08	1,78							
" 10......	131,40	70	1,08	1,78							
" 17......	109,00	70	1,08	1,78							
" 24......	145,20	72	1,10	1,82	Mar. 24...	1,85	4,24	6,09	3,63	2,57	6,20
" 31......	80,58	74	1,13	1,87							
April 7......	148,92	77	1,16	1,93							
" 14......	113,93	77	1,17	1,94							
" 21......	152,55	76	1,17	1,93	April 21...	1,90	4,39	6,29	3,77	2,61	6,38
" 28......	110,42	76	1,17	1,93							
May 5......	147,64	77	1,19	1,96							
" 12......	111,14	77	1,20	1,97							
" 19......	130,73	77	1,17	1,94	May 19...	2,17	4,64	6,81	3,85	2,61	6,46
" 26......	104,92	75	1,13	1,88							
June 2......	122,08	74	1,11	1,85							
" 9......	123,81	—	—	—							
" 16......	103,50	72	1,07	1,79	June 16...	2,32	4,77	7,09	3,50	2,51	6,01
" 23......	131,47	72	1,06	1,78							
" 30......	98,35	72	1,06	1,79							
July 7.....	163,71	74	1,08	1,82							
" 14......	112,50	73	1,06	1,79	July 14...	2,05	4,64	6,69	3,39	2,46	5,85
" 21......	133,56	71	1,05	1,76							
" 28......	99,39	71	1,03	1,74							
Aug. 4......	133,16	70	1,04	1,74							
" 11......	94,46	70	1,03	1,73	Aug. 11...	1,99	4,44	6,43	3,49	2,47	5,96
" 18......	118,08	69	1,02	1,71							
" 25......	109,38	68	1,01	1,69							
Sept. 1......	86,30	67	1,01	1,68							
" 8......	136,05	67	1,02	1,69	Sept. 8...	2,00	4,43	6,43	3,52	2,52	6,04
" 15......	87,03	67	1,02	1,69							
" 22......	121,54	68	1,03	1,71							
" 29......	90,42	71	1,06	1,77							
Oct. 6......	142,03	75	1,11	1,86	Oct. 6...	1,96	4,46	6,42	3,73	2,70	6,43
" 13......	110,96	75	1,13	1,88							
" 20......	131,08	74	1,12	1,86							
" 27......	97,89	73	1,11	1,84							
Nov. 3......	129,51	75	1,13	1,87	Nov. 3...	2,00	4,60	6,60	4,09	2,89	6,98
" 10......	107,91	74	1,14	1,88							
" 17......	128,05	73	1,13	1,86							
" 24......	116,11	73	1,14	1,87							
Dec. 1......	97,38	73	1,12	1,84	Dec. 1...	2,37	4,92	7,29	3,97	2,88	6,85
" 8......	158,25	—	—	—							
" 15......	107,88	70	1,06	1,76							
" 22......	115,63	71	1,06	1,77							
" 29... ..	82,42	71	1,05	1,76	" 29...	2,18	4,72	6,90	3,72	2,78	6,50

FOREIGN EXCHANGES.—*Quotations as under,* LONDON *on Paris, Hamburg, and Calcutta;—and New York, Calcutta, and Hong Kong, on* LONDON, *for* **1894.**

1	2	3	4		5	6	7		8		9
			Calcutta.						Price per Ounce.		
DATES. (Thursdays)	London on Paris. 3 m. d.	London on Hamburg. 3 m. d.	London on Calcutta.		Indian Council Bills. Minimum Price per Rupee.	New York on London. 60 d. s.	Hong Kong on London. 4 m. d.		Gold Bars (Fine).		Standard Silver in Bars.
1894.			s.	d.	d.	Per cnt.	s.	d.	s.	d.	d.
Jan. 4	25·36¼	20·59	1	3 1/32	15¼	4·84	2	3⅜	77	9½	31⅛
„ 18	25·32½	20·58	1	2⅞	—	4·85	2	3½	77	9¼	31⅜
Feb. 1	25·38¾	20·61	1	2 3/16	14⅜	4·84⅞	2	2	77	9	30 1/16
„ 15	25·34½	20·60	1	1¾	13¾	4·85¼	2	1⅞	77	9½	29¾
Mar. 1	25·35	20·57	1	1 7/16	13 9/16	4·86¾	1	11¾	77	9	27⅝
„ 15	25·37½	20·58	1	1⅞	13 15/16	4·87¼	1	11¾	77	9	27¼
„ 29	25·37½	20·56	1	1¾	13 25/32	4·86¾	2	−¼	77	9	27¼
Apl. 12	25·36¼	20·56	1	1½	13 19/32	4·87¼	2	1¼	77	9	28¾
„ 26	25·31¼	20·55	1	1½	13 9/16	4·87¼	2	1¼	77	9	29 5/16
May 10	25·31¼	20·55	1	−15/16	13 1/16	4·87½	2	1⅜	77	9	29⅛
„ 24	25·32½	20·55	1	−9/16	—	4·87½	2	1	77	9	28⅞
June 7	25·31¼	20·53	1	−⅞	13	4·87½	2	1⅛	77	9	28⅞
„ 21	25·33¾	20·52	1	−15/16	13	4·87½	2	1½	77	9	28 15/16
July 5	25·33¾	20·52	1	−15/16	12 31/32	4·87	2	1⅝	77	9¼	28⅞
„ 19	25·30	20·51	1	−¾	12 15/16	4·87	2	1½	77	9	28 11/16
Aug. 2	25·32½	20·52	1	−⅞	12 29/32	4·87¼	2	1⅜	77	9	28 11/16
„ 16	25·31¼	20·51	1	−15/16	13 1/32	4·85¾	2	1¾	77	9	29¼
„ 30	25·30	20·50	1	1⅛	13 15/16	4·85½	2	3	77	9	30 7/16
Sept. 13	25·30	20·50	1	1 11/16	13⅝	4·85	2	2⅜	77	9	29 9/16
„ 27	25·32½	20·50	1	1¼	13⅛	4·85¼	2	2½	77	10⅛	29¼
Oct. 11	25·30	20·49	1	1⅜	13 11/32	4·86¾	2	2⅛	77	10	29 5/16
„ 25	25·30	20·49	1	1¼	13⅜	4·86¾	2	1⅝	77	10	29⅛
Nov. 8	25·30	20·50	1	1 5/16	13 9/32	4·86¾	2	1⅞	77	10¼	29⅛
„ 22	25·30	20·51	1	1¼	13 7/32	4·86½	2	1⅛	77	10⅛	28⅞
Dec. 6	25·28¾	20·52	1	1 1/16	12 29/32	4·87¼	2	−⅝	77	10½	28⅛
„ 20	25·30	20·52	1	−13/16	12 15/16	4·87½	2	−⅝	77	9¼	27⅞
„ 27	25·33¾	20·52	1	−15/16	12 15/16	4·87½	2	−⅜	77	9¼	27 7/16

Vol. LVIII.] [Part II.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

JUNE, 1895.

CHANGES *in* AVERAGE WAGES (NOMINAL *and* REAL) *in the* UNITED KINGDOM *between* 1860 *and* 1891. *By* A. L. BOWLEY, M.A.

[Read before the Royal Statistical Society, 19th March, 1895.
FREDERICK HENDRIKS, Esq., F.I.A., Vice-President, in the Chair.]

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I.—CHANGES IN AVERAGE WAGES.

1. *Object of the Paper.*

OF all the economic and social questions now to the front there is none on which such diverse views are held, or which is so much in need of settlement, as this: Who are benefiting most by the development of industry; those who obtain profits or interest, or those who receive wages?

The first step towards answering this question is to find the actual changes in the total sum paid in wages and the average money wage, and also in the gross receipts of profits and interest, and the average income of the nation as a whole.

The second step is to find the variations in the purchasing power of money, both in the hands of wage-earners and of the richer classes.

The third step is to trace the improvement in conditions of work, hours of labour and environment, the development of freedom and responsibility, and to estimate the greater tension involved in modern conditions of trade, and the greater or less uncertainty of a regular return for effort, in their effect both on employés and entrepreneurs.

To complete the task it is necessary to determine how these changes have affected the work of men, women, and children, respectively; and to consider more in detail the present circumstances of capitalist, landowner, undertaker, manager, salaried clerk, and the various grades of skilled and unskilled labour.

Of these problems but few can be attacked statistically; for even of those which lend themselves to numerical measure, many cannot be solved for want of data.

In this paper an attempt is made to deal with the first step only, the results being corrected for the change in purchasing power by the same index numbers (Sauerbeck's) for all classes. Leaving entirely out of question not only the causes of these changes, but also the distribution of wages among different classes of labour and the irregularity of employment, I have merely endeavoured to make as accurately as existing data allow a statement of this nature: in 1891 1,000,000 men, women, and children, in representative groups of trades, earned per head 40 per cent. more in actual coin, and 92 per cent. more if the increased purchasing power of money is allowed for, than their 1,000,000 predecessors in the same trades in 1860; and similarly for intermediate years.

It is necessary to point out the limitations of this result. The trades that were representative in 1860 of the general condition of the working classes may not be equally representative in 1891. In an old established trade, as methods become more familiar, the labour employed may be less skilled, with the double result that the most skilled workmen are to be found in the newest trades,[1] and that in the old trades women supplant some of the men, who have to seek other employment. Owing to the first of these phenomena the increase shown by our figures will be less than the true increase; owing to the second, it will be greater only if the process is proceeding more rapidly now than formerly.

Again, there is no means of finding what increase of wages has been obtained in the ranks of unskilled and casual labourers, such as dockers and tram men. If their improved organisation has led to a greater increase in recent times than is to be found among the trades unions formed at an earlier date, the inclusion of their wages in our table would have the effect of increasing the number showing general progress; while if the increase in their wages has not kept step with the trades already included, the effect would be in the opposite direction.

Finally, the increase or diminution of the numbers of unemployed will leave no trace on these figures.

I have not expected to obtain figures which will represent the facts with mathematical accuracy, for that would have been impossible; but my intention has been to tabulate all the figures accessible, to treat them in the way to which a very limited knowledge of the conditions of each special trade pointed, to find what changes of wages are indicated by the scanty statistical information available, and to give the results in such a form that further or more reliable information can correct them.

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[1] *Vide* Conclusion, III, 4, page 251.

The year 1860 has been chosen as starting point, because many of the figures needed in our comparison are not available for an earlier date. That year, moreover, appears to fairly represent the average of the period 1858-62 in wages, is marked by no special disturbing events, and will allow us to make a comparison extending over one generation.

2. *Authorities Consulted.*

No complete and adequate information is to be obtained about any single trade. The "Returns of Wages,[2] 1830-86" [C–5172], contains a great deal of matter useful for my purpose; but it is incomplete in every way, contains many tables which cannot be compared with any similar ones, and generally does not give the number of workers earning each specified wage. The five "Reports on Trades Unions," while they give much accurate information about changes in minimum wages accepted by "Society" men, do not generally furnish sufficient data for finding average wages throughout the society or the trade. The "Merchant Shipping Returns" (Board of Trade, May, 1892) are very complete, but do not give the numbers earning each wage. The "Reports of the Commission on Depression of Trade, 1886," and the "Labour Commission" contain many tables of wages, and much scattered information of a general character; and Mr. Little's very complete report[3] on the "Agricultural Labourer" summarises all that is known about agricultural wages. The "Returns of Wages in Textile Trades and Mines and Quarries" (C–5807, 6161, and 6455) give complete figures for one year only. The Annual Commercial History and Review in the "Economist" is most useful in indicating the general course of wages, and contains some figures sufficiently minute and definite to be used in compiling my tables.

Besides these well known authorities I have taken figures from various books and reports (to which I have given reference, when using them), and have gathered some facts verbally from trades unionists, who at the same time criticised figures already in my possession. I should like to take this opportunity of acknowledging the help and advice I have received from Cambridge, where this paper originated, both in the selection of authorities and in many details of the actual work.

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[2] Referred to throughout as "Returns of Wages."

[3] Labour Commission. "Agricultural Labourers," vol. v.

3. *Such Estimates of Wages for Different Periods as do exist are made on different plans, and therefore do not indicate the Rate of Growth of Wages.*

There is great difficulty in using the figures thus obtained, for they are not given in the same years in different trades; and it is often doubtful by what method they were collected, to what exact period, locality, or trade they refer, and what relation they bear to actual earnings. It is absolutely impossible from the figures now extant to compile a satisfactory schedule of wages for any single year.

Mr. Leone Levi made complete detailed estimates for 1866 and 1885, and Mr. Baxter for 1867. Dr. Giffen gave an estimate in the aggregate for recent years in evidence before the Labour Commission, and many of the details leading to that estimate have been published. Mr. Levi's two estimates can be compared, being founded on the same basis; but it is very difficult to make any accurate comparison between the others. Besides these, I have not found any estimates, which profess to be complete, or which depend on figures capable of giving an accurate account of wages in general.

I have therefore adopted an entirely different method, which the following sections develop and explain.

Means adopted to avoid this difficulty. The use of Ratios instead of the Amount of Wages.

The two special characteristics of my calculation are that I have never compared two statements of wages, except when they have been given by the same authority; and that I have dealt entirely with the ratios, not with the amount, of wages.

Very few of the existing schedules of wages show clearly the exact way in which they have been compiled. Generally it is open to conjecture whether a given wage is the average wage earned by the average workman throughout the year, good times and bad, or the wage earned by the best workman in a busy week, or whether it occupies any position between these extremes. Without such knowledge it is not possible to compare two statements by different authorities. But if the wage schedules come from the same source, are both collected by Chambers of Commerce for the same purpose, or are both given by Trades Unions (without any obvious bias in favour of increase or decrease), or are compiled in the same way by the same statistician, any change indicated by these statements corresponds to an actual fact. It is not permissible to compare Mr. Baxter's estimate with Mr. Levi's, or Mr. Levi's with Dr. Giffen's, without very careful and difficult analysis of the different methods of compilation; but we may expect an accurate result from a comparison of Mr. Levi's two calculations; and his estimate of an increment of 12½ per cent.[4] in average wages between 1866 and 1885[5] is the only complete and reliable one of the kind with which I am acquainted.

Even if we could find a probable average for weekly wages in, say, 1860, we should still be very far from a true basis of comparison with Mr. Giffen's estimates for 1886. To obtain annual earnings from nominal weekly wages, it is not open to us simply to multiply by 52. Deductions must be made for slack time, want of work in times of depression, absence owing to illness, low wages due to old age and casual employment, for fines, strikes and lockouts; and additions must be made for overtime. No two investigators would independently make the same allowances.

An illustration may be given from the coal strike in 1893. The figures given by masters and men were hopelessly at variance. They were presumably both reckoned in good faith, but with bias in different directions; while the former looked perhaps at the highest wages that could be earned, the latter looked at the lowest.

But, supposing similar estimates to be made on the same principles in five years time, also in good faith, both would probably show an increase or both a decrease; it would still be impossible to get at the actual wages, but we could get a good idea of the rate of change.

Figures given respectively by masters and men are an extreme case. Those which we wish to compare are more likely to be non-comparable chiefly by difference of locality and conditions of work.

Now it is clear that, though figures given for Glasgow in 1870 are not comparable with those for Liverpool in 1880; and, though figures given even for the same town in 1850 and 1890 are of little use, yet if we have returns for each of the years 1860, 1870, 1880 and 1890 from the same Chamber of Commerce, we are on safe ground if we compare them *seriatim*.

The only figures used in the present estimate are those given for the same trade in the same place, and collected apparently in the same way.[6] No isolated estimate is admitted; any great departure from uniformity of tabulation is marked doubtful; and, as already stated, the actual wage is not used, but only the ratio of wages, in computing further results.

---

[4] 1866, 38*l.*; 1885, 42*l.* 14*s.*

[5] In this paper the increase is found to be 10½ per cent. between 1866 and 1886.

[6] In one or two places I have approximated on less safe grounds, but in such cases I have indicated the change of method.

Advantages of this Method.

By using ratios only, most of the causes which prevent comparison of different series of figures are eliminated; for each series will represent wages computed on some single system, and we shall see that the *ratio* may be expected to be nearly the same, whether the system takes weekly wages or annual earnings, or the wages of the best or the average workman; and whether account is taken of lost time or not. For we do not wish to find the loss in a particular year due to exceptionally bad trade or trade disputes, but only the general course of wages in normal years. If loss of wage due to illness or want of work bears the same ratio to average wage in two different periods, the rate of change is not affected by leaving the loss entirely out of the reckoning. It is only the *change* in the relative amount of work, only a fraction of a fraction, that should be allowed for. For instance, suppose that nominal wages have increased in a certain period in the ratio 125 : 100; if in each year it is found that 50 out of 1,000 were on an average unemployed, the ratio is not affected; but if the number of unemployed had increased 10 per cent., so that 55 per 1,000 were out in the latter period, the ratio would become:—

$$125 \times \frac{1000 - 55}{1000} : 100 \times \frac{1000 - 50}{1000} = 124\tfrac{1}{3} : 100$$

From this it is clear that a very great change in the number of trade disputes or of the unemployed would be needed to have any perceptible effect on the rate of change. In mathematical language, for a first approximation the error may be neglected.

A similar argument applies to difference of methods of collecting wage statistics. The difference between the ratios found from wages computed on two different systems—say, by taking possible wages in a full week in one case, and actual annual earnings in the other—will be equally small.

For example, suppose the average weekly wages in some trade throughout the year 1860 to have been 30*s.*, but the nominal weekly wage to have been 33*s.*—10 per cent. more; if the nominal wage increased 25 per cent. by 1880, and at the same time the difference between it and the average rate become 11 per cent. instead of 10 per cent. (which is an increase of 10 per cent. on the difference), the two ratios will be:—

	1860.	1880.	Ratio.	
Nominal wages	33*s.*	41*s.* 3*d.*	100	125
Average ,, ...	33*s.* × $\frac{100}{110}$	41*s.* 3*d.* × $\frac{100}{111}$	100	123·8

Other differences of tabulation will produce similar results; and when we are dealing with normal years, on which we wish to concentrate attention, the difference will be a minimum.

We need then have no great hesitation in using ratios obtained from any reliable source as quantities of the same kind; and we are therefore able to compile in a single table information collected in any consistent way. Without this possibility the inquiry would break down at the start for want of comparable figures; and I see no other way of making full use of the figures that do exist, other than that I have chosen.

4. *Illustration of Method by discussion of Wages in the Building Trades.*

Before discussing the possible errors introduced by this method, it will be best to illustrate it by describing in detail the figures for the Building Trades.

TABLE I.—*Changes in Wages in Building Trades.*

Wages in 1860 taken as 100. Other numbers in each line percentages of wages in 1860.

[From "Returns of Wages." C-5172; pp. 354—389.]

	Weights. Numbers Employed (in 1000's).	1859	1860	1861	1862	1863.	1866.	1867.	1871.	1874.	1877	1880	1883.
Glasgow	15	100	100	102	—	98	—	—	—	—	—	113	125
Belfast	5	—	100	—	—	—	—	—	118	126	—	—	—
Liverpool	18	99	100	100	100	—	—	—	—	—	137	127	127
Bristol	6	91	100	—	—	102	—	—	—	—	134	129	113
Edinburgh	10	—	100	108	—	—	*115*	—	—	—	—	130	133
Manchester	10	100	—	—	—	—	—	—	—	—	133	124	124
											Avg.	124	126
Worcester	1	96	100	—	—	—	—	—	—	—	—	—	—
Newcastle	4	—	100	—	—	—	126	126	—	—	—	—	—
London	120	—	—	—	—	—	—	—	—	—	124	124	124
Folkestone	1	—	—	—	—	—	—	—	—	—	—	124	124
Portsmouth	3	—	—	—	—	—	—	—	—	—	121	124	121
Cardiff	3	—	—	—	—	—	—	—	—	—	—	124	124
Wolverhampton	1	—	—	—	—	—	—	—	—	—	135	124	124
Birmingham	9	—	—	—	—	—	—	—	—	—	—	124	120
Northampton	1	—	—	—	—	—	—	—	—	—	132	124	124
Nottingham	5	—	—	—	—	—	—	—	—	—	124	124	124
Lincoln	1	—	—	—	—	—	—	—	—	—	139	124	124
Warrington	2	—	—	—	—	—	—	—	—	—	137	124	129
Bolton	3	—	—	—	—	—	—	—	—	—	136	124	122
Bradford	5	—	—	—	—	—	—	—	—	—	149	124	119
Sheffield	6	—	—	—	—	—	—	—	—	—	—	124	117
Darlington	1	—	—	—	—	—	—	—	—	—	150	124	129
South Shields	1	—	—	—	—	—	—	—	—	—	135	124	128
Leicester	3	—	—	—	—	—	104	—	—	—	129	124	124
Weighted average	—	99	100	102	—	*100*	*116*	*126*	*118*	*126*	128	124	124

Numbers in *italics* doubtful. Base numbers underlined.

In this case the "Returns of Wages" are comparatively complete.

For several towns the percentages of men employed in each sub-division (bricklayers, masons, carpenters, plumbers, painters and ordinary labourers), are given for one or more years. These percentages do not vary widely from town to town or from year to year, so that for places or years which have not these details, proportionate numbers can be chosen, which cannot differ much from the actual ones. An error introduced by this cause will have no great effect, unless the change of wages in one sub-division differs considerably from the average change. In the building trades the sub-divisions have closely corresponding changes in the different years.

A difficulty arises from want of uniformity of classification. For instance, the list for London in 1883 (p. 354) includes bricklayers, masons, joiners, house carpenters, plasterers, slaters, painters, plumbers and labourers. In 1880 the list also contains glaziers, smiths, gasfitters, bellhangers, paperhangers and scaffold labourers. The list for 1877 is the same as for 1880, except that joiners and carpenters are separated.

To compare 1877 and 1880 we have the following:—

Occupations.	Number Employed.	Wages per Hour.	Hours.		Wages per Week.		Average.
			Summer.	Winter.	Summer.	Winter.	
1880.		*d.*			*d.*	*d.*	*d.*
Bricklayers	12	9	52½	47	472½	423	447
Plumbers	2	10	50½	47	505	470	487

The numbers employed are not given for London; but in the trade generally there appear to be six bricklayers to one plumber, and so on.

Working out the table, for illustration, as if there were only two sub-divisions, we have:—

In 1880 the fourteen men earn 12 × 447 + 2 × 487 = 6,338*d.* per week.

In 1877 we find in the same way that they earned 6,400*d.* per week, and average wages were diminished in the ratio 100 : 99 between 1877 and 1880.

To compare 1880 and 1883, we take only the sub-divisions found in both lists.

Passing on to other details, we often find cases of which the following is an example:—

For Bristol (p. 359).
1857 and 1858 are easily compared (I).
'63 can be compared with 1858 (II).
'77 " " " 1863 (III).

Hence we have—

	1857.	1858.	1863.	1877.
From (I)	89	83	—	—
„ (II)	—	83	103	—
„ (III)	—	—	103	132

We can also compare 1857 and 1877 directly (IV), and compare the result with that obtained indirectly by the combination of (I), (II), and (III).

These four comparisons will have required three different groups of sub-divisions:—

(I) and (II). Carpenters, masons, mason's labourers, painters.
(III). Masons, joiners, painters, plasterers, smiths.
(IV). Carpenters, painters, plasterers.

If the different sub-divisions have wages increasing at the same rate, (IV) will give the same result (89 : 132) as a combination of (I), (II), and (III). As a matter of fact (IV) gives (89 : 127).

In this way it can be tested how far the results obtained represent the general progress of the trade, and any inconsistencies can be marked as doubtful.

Another difficulty in the building trade is the change from payment by the day to payment by the hour: and by tabulation like this:—

1863.	1877.
Masons, 4*s.* 6*d.* per day.	8*d.* per hour: 54 hours per week in summer, 48 in winter.

Does the 4*s.* 6*d.* represent summer or winter wage, or was it the same throughout? From internal evidence it has generally appeared that the former wage was the summer wage; and that it should compare with a 9 or even a 9½ hours day at 8*d.* per hour in 1877.

Again, the wages of foremen do not change in the same way as of ordinary workmen. They vary from man to man, are often only stated within wide limits, and more often not at all; so the result obtained will really not have taken this class of wage into account at all.

These or similar difficulties, *e.g.*, change from time to piece wage, or changes in importance of sub-divisions, as skilled labour or machinery supplants unskilled, or *vice versâ*, are present in the wage schedules of all trades.

In each line of figures these points have been considered; only those numbers which do not appear to be vitiated in these ways have been kept, and specially doubtful numbers printed in different type.

Next, when the list has been drawn up for different towns, we probably find that they are given for different years, *e.g.*:—

[*Excerpt from Table I.*]

	1860.	1863.	1877.	1880.	1883.
Glasgow	100	98	—	113	125
Liverpool	100	—	137	127	127
Manchester..............	100	—	133	124	124
Edinburgh................	100	—	—	130	133
Average for 1880....	—	—	—	124	—
Darlington...............	—	—	150	124	129
South Shields..........	—	—	135	124	128
Portsmouth	—	—	121	124	121

Here 124 is chosen for Darlington, &c., in 1880, because those towns which have figures for 1860 and 1880 indicate it, and in the final average (Table V) the numbers for 1883 for the two groups agree. A number thus chosen for a basis is underlined.

Having obtained the series of numbers for all the districts possible, the numbers employed in each district are entered with approximate correctness, and the weighted average for each year is taken. If less reliable numbers (in different type) are used in taking this average, the resulting number is also so distinguished. If the numbers employed cannot be found, a simple arithmetic mean is taken.

For the building trades the numbers thus obtained are:—

1860.	1861.	1863.	1866.	1871.	1874.	1877.	1880.	1883.
100	102	*100*	*116*	*118*	*126*	128	124	124

Here the numbers for 1863, 1866, 1871, 1874 are less certain than the others, and need additional confirmation.

These figures signify that while 1,000 workmen earned 100 × 1,000 units (say 3*d.*) per week in 1860, their successors in 1883 earned 124 × 1,000 units.

The next step is to test these numbers by any collateral evidence obtainable.

TABLE II.—*Changes of Wages in Building Trades, as shown by Trades Union Reports.*

128 taken as wage in 1877; other numbers proportionately.

			'60.	'61.	'62	'63	'64	'65.	'66.	'67	'68.	'69.	'70.	'71	'72.	'73.	'74	'75.	'76.	'77.	78	'79	'80.	'81.	'82.	'83.	'84.	'85.	'86.	'87.	'88	'89	90.	'91
Amalgamated Society. Carpenters and Joiners	Report[1]	1,700 to 25,000	—	—	—	—	105	113	118	118	118	116	116	118	117	123	130	127	128	128	126	126	126	128	128	123	123	123	128	128	128	—	130	130
	Comms[2]	9,000	—	—	—	—	—	(104)	—	—	—	—	—	—	—	—	—	—	(*128*)	—	—	—	—	—	—	—	—	(120)	—	—	—	—	—	—
Associated Society Carpenters and Joiners, Scotland	Report	1,000 to 4,000	—	—	83	84	90	90	93	92	94	94	95	95	99	108	116	123	126	128	116	102	98	103	106	108	108	108	108	108	108	111	112	—
Operative Bricklayers	Report	4,000 to 7,000	—	—	—	—	—	—	—	105	105	105	105	105	113	113	113	116	128	128	118	121	128	125	125	125	109	119	118	119	—	—	119	119
	Comms[2]	7,000	—	—	—	—	—	(100)	—	—	—	—	(*105*)	—	—	—	—	—	—	(*128*)	—	—	—	—	—	(132)	—	—	—	—	—	—	—	—
United Operative Bricklayers Trade Accident and Insurance Society, Great Britain and Ireland	Report	1,200 to 8,000	—	—	—	—	—	—	—	117	117	117	117	117	117	117	128	128	128	128	128	128	140	140	140	140	140	140	140	140	140	—	—	140
Operative Plumbers	Report	2,000 to 1,500	—	—	—	—	—	—	—	—	(103)	—	—	—	—	—	—	—	(128)	—	—	—	—	—	—	—	—	—	—	(128)	—	—	—	—
	Comms[2]		—	—	—	—	—	109	—	—	—	—	—	—	—	—	—	128	—	—	—	—	—	—	—	—	—	121	—	—	—	—	—	—
Operative Stonemasons	Report	2,000 to 4,000	—	—	—	—	—	—	—	118	116	116	116	115	115	117	117	118	120	128	128	128	128	128	128	128	128	128	120	120	—	—	121	—
House Decorators and Painters, London	Report	300 to 1,000	111	111	111	111	111	112	112	124	124	124	124	124	128	Then downward tendency till 1885												—	—	—	—	—	—	128
	Weighted avrge. (excluding figs. in brackets) ...		—	—	—	—	—	110	115	115	115	114	114	115	115	115	125	124	126	128	125	124	126	127	128	125	123	124	126	127	128	—	—	128
Mr. Lord, Lancashire	—		100	—	—	—	—	—	—	—	—	—	112	—	—	—	—	—	—	135	—	—	—	—	—	127	—	—	—	—	—	—	—	—
Returns of Wages (from Table I) ...	—		100	102	—	*100*	—	—	*116*	—	—	—	—	*118*	—	—	—	*126*	—	128	—	—	124	—	—	124	—	—	—	—	—	—	—	—
Result from all figures......	—		100	102	—	100	—	110	116	116[3]	—	—	116[4]	117	—	—	126	125[5]	—	128	—	—	125	—	—	125	—	124	126	127	128	—	—	128

[1] Reports on Trades Unions. [2] Commission on Depression. [3] Same as 1866. [4] 1 less than 1871. [5] 1 less than 1875. Base numbers underlined. Doubtful figures in *italics*.

In the first place Trades Union Reports give maximum and minimum wages. These are treated in the same way as the former figures; but they are only of value when the maximum and minimum increase in the same ratio, or when there is something to indicate which is the average rate. The Associated Society of Carpenters and Joiners publish the wages and hours of work for each town in Scotland[7] for every year from 1862-90. The increase of the arithmetic average of these weekly wages must be very near the true increase. In larger societies (Amalgamated Society of Carpenters and Operative Bricklayers) the maximum and the average of maximum and minimum rates increase in very nearly the same ratio, which is probably the true one.

From answers given by Trades Unions to the circular issued by the Commission on Depression, other numbers are obtained. Where a double set is thus obtained for one union, it is decided from internal evidence which is the best, and the other entered, but distinguished as not used.

The unions are weighted with their maximum numbers of members and the average taken as before, 1877=128 being taken as the basis, since most of the lines do not contain a figure for 1860.

We obtain for the years occurring in both tables, numbers for 1877 being equated:—

Years.	1866.	1871.	1874.	1877.	1880.	1883.
Returns of Wages	*116*	*118*	*126*	128	124	124
Trades Union Reports	115	115	125	128	126	125

The close agreement of these figures from 1866 to 1883 is very remarkable; they were obtained from tables prepared in the one case by Chambers of Commerce, in the other by Trades Unions; in the one case each table contains details of men employed at different "trades" in one town, in the other at the same trade in different towns; in one case they were compiled to inform the public, in the other to inform the workmen; there is no point of resemblance between the methods of compilation of the two sets of figures. They were worked out independently of each other, and only compared when completed. Their agreement goes far to show that they are accurate, and that the method is reliable.

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[7] The marked decrease after 1877 in Scotland was stated in evidence before the Labour Commission to be due to the failure of the Glasgow Bank.

5. *Sources of Possible Error and the Allowance to be made for them.*

There are two apparent sources of error inherent in the method here employed; for the figures have been used as if two assumptions had been made;[8] the one, that wages were equal in all trades in 1860, so that taking 100 as the base number for all trades in 1860 would give us a true average increase; the other, that the numbers employed in different industries have borne the same ratio for thirty years, so that the same weights could be used for each year in compounding the figures. It appears at first sight as if this must vitiate the result, but both by experiment and theory it is found that the error introduced into the result is exceedingly small.

For instance, in Table VIII (p. 253) the increase in agricultural wages has been worked out in three different ways: first, taking actual wages in each year and actual numbers employed in 1860; secondly, assuming equal wages in 1860, but taking account of the different numbers in each district; thirdly, by taking the arithmetic mean of the ratios of increment in each district. The greatest difference between these three results is 3 per cent.; and this is within the error which we may expect from any individual result. This is an extreme case. Another illustration is obtained from the same table. The general increase is calculated first on nominal weekly wages; secondly on actual annual earnings, including allowances; the individual figures differ greatly, but the resulting ratios are $\frac{118}{107}$ and $\frac{116}{107}$. Many other such instances could be given, and no exception has been found when a sufficiently large number of figures is used. The principle involved will be familiar to readers of Professors Jevons and Edgeworth's writings; it will be remembered that the changes of the index numbers were practically the same whether the simple or the weighted average of the price of commodities was taken.

The corresponding theory would be that the arithmetic means of two series of numbers will differ little from each other, if the numbers of the series are connected by any simple rule so that a number in the first series never differs much from the corresponding number in the second; and if the number in the first is equally likely to be greater or less than the corresponding number in the second, the difference between the means will be negligible in comparison with the greatest difference between corresponding numbers, and will become continually smaller as the number of the terms in the series becomes greater.

For example, if the time of sunset on many days scattered at random throughout the year is written down from a chronometer and from a sundial, and the averages taken for each method, these averages will be practically the same.[*]

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[8] For illustration of these assumptions, *vide* Tables III and V.

If errors of more than one kind enter together, it is not difficult to see that, theoretically, when a sufficiently large number of cases are taken, the resulting error from both causes together will probably be less than the resulting error from any of the causes singly.

Another way of looking at the same thing is this:—An error of 5 per cent. in the wages of 100,000 men only introduces an error of 0·5 per cent. when they are massed with those of 900,000 men. Of the errors involved some will be in excess, others in defect; and the resulting error will certainly be less than 5 per cent. (if that is the greatest original error), and if there are a sufficiently large number of cases will probably be very small compared even with 5 per cent.

Another cause of error enters in some of the work. When wages are not given for a trade for all its important localities, it is assumed in the result that the towns for which data are given are typical of the whole trade. A similar argument would apply here, but it is obvious that the error might be of magnitude too considerable for this theory of chances. I have therefore excluded entirely trades for which the figures were not typical; and when in any particular year there were many gaps in the figures, I have marked the resulting number as doubtful.

I have carefully watched the possible errors throughout the work; and when they appeared to be sufficiently great to have any perceptible effect on the final result, I have also worked through the figures without the assumption which introduced them, as will be seen in the sequel.

For instance, in Table V the proportionate average wages in seven groups of trades are computed for nine different years, the proportionate numbers engaged in each year entered, and the proportionate average wages for the whole found. In Table III the ratios of increase had been computed by the method of this paper, taking 100 as the base for 1860 for each trade, and not making any allowance for changes in the proportionate numbers engaged in each trade.

The results are:—

	1860.	1870.	1880.	1886.	1891.
From Table III	100	111	120	121	135
" " V	100	113	124	125	140

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[*] Trying this for twenty-four days taken at random throughout the year, I found 6 hours 8 minutes and 6 hours 10¼ minutes as the averages. The more days taken, the nearer both would be to 6 hours, which is another illustration of the same principle.

I would ask, in criticising any individual figures, that the effect they will have on the result, rather than their individual accuracy, may be borne in mind.

It will be observed that by the method I have employed it has often not been possible to give due effect to the substitution of one class of labour for another in the same trade. So far as this change has been predominantly in the direction of increasing wages, it remains uncorrected, and I have already indicated that the substitution of highly skilled labour for less skilled has not been fully dealt with. But in individual trades this change has been in both directions, and therefore comes to a great extent within the theory of errors; and in some of the most important cases (for instance, in the wool trade and in the change from sailing to steam ships), I have been able to allow for it, while some data are given in such a form as to not contain this error. From the figures I have used I have obtained the impression that a complete allowance for this change in individual trades would have no great effect on the final result, but I have no means of estimating the exact correction needed.

6. *Review of the Figures in Appendix, with special reference to those admitting of most doubt.*

I have discussed the detailed figures relating to textiles, agriculture, mining, the iron trades, gas, and the merchant service in the Appendix; here I will only briefly indicate the chief points calling for attention.

I have selected these industries simply because they are the only ones for which I could obtain figures. I had investigated to some extent wages in several other trades, particularly shipbuilding; but from one cause or another have found it impossible to get any result.

The years for which most figures are accessible are 1860, 1866, 1870, 1874, 1877, 1880, 1883, 1886 and 1891; and my object has been to get a figure for these years whenever it was possible. In the individual trades it of course frequently happened that the most satisfactory data were to be found for other years than these. In such cases in the Appendix I have given all the reliable figures I could get for any years, for in that way an idea can be obtained of the course of wages in each trade, apart from the immediate purpose of this paper; and at the same time it is easier to judge of the probability of the correctness of the figures which are used in the final table.

TABLE III.—*Ratios of Increase of Wages for Different Trades, from Tables in Appendix. Wages in* 1860 = 100.

[For explanation, see following pages.] [Doubtful figures in *italics*.]

[The figures underneath the percentages show the limits of error within which the true numbers may reasonably be supposed to lie.]

	Percentage Number Employed.	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Agriculture...........	25	100	105 ± 5	107 ± 2	130 ± 5	132 ± 3	122	117 ± 4	111	118
Building........................	24	100	116	116	126	128	125	125	126	128
Cotton........................	13	100	125 ± 10	125 ± 3	*148* ± *10*	148 ± 8	134 ± 3	146 ± 8	155 ± 8	176 ± 6
Wool	4	100	106	112 ± 5	121	130	126	120 ± 5	115 ± 10	115 ± 15
Jute	1	100	133	....	140	127	120	142	120 ± 5	140 ± 5
Flax........................	3	100	114	....	129	133	....	....	133	....
Average Textiles	*21*	**100**	**120**	***121***	***141***	**141**	**132**	**140**	***143***	***160***
Iron (Puddling, &c.)	2	100	127 ± 5	127 ± 5	143 ± 5	112 ± 10	112 ± 10	110 ± 10	100 ± 5	124 ± 10
Engineering	9	100	108 ± 5	110 ± 5	124 ± 10	123 ± 10	120 ± 10	127 ± 10	126 ± 10	126 ± 10
Average Iron	*11*	**100**	**112**	**114**	**128**	**121**	**118**	**124**	**121**	**125**
Gas	1	100	115	120 ± 5	125 ± 10	128	128	130	130 ± 5	149
Seamen (A.B.)........ ..	5	100	113	103	129	123	102	118	110	143
Mining	13	100	....	100 ± 5	150 ± 10	115 ± 5	100 ± 5	115 ± 5	100 ± 5	150 ± 10
	100		....	....	....	....	....	....	....	....
Weighted average ...	....	100	113	111	134	129	120	124	121	135
Maximum effect of limits of error....	....	....	± 2	± 2	± *7*	± 3	± 2	± 4	± 3	± 3

TABLE IV.—*Excerpt from Table III, including only Figures comparatively Free from Doubt.*

Years.	Proportionate Numbers Employed.	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Agriculture (England)	25	100	—	107	—	—	122	—	111	118
Building........	24	100	116	116	126	128	125	125	126	128
Cotton.......	13	100	—	125	—	148	134	—	—	176 ± 5
Wool	4	100	106	—	121	130	126	—	—	—
Jute................	1	100	133	—	140	127	120	142	—	—
Flax........... ..	3	100	114	—	129	133	—	—	133	—
Seamen	1	100	113	103	129	123	102	118	110	143
Gas	5	100	115	—	—	128	128	130	—	149
Weighted average	—	100	115	114	127	133	125	126	119	135

To throw into relief the figures which may reasonably be supposed to be correct within small limits I have put them together in Table IV, and shown what rate of increase these figures alone would indicate. The rate thus found differs from the average in the more complete Table (III) less than 5 per cent. for all years except 1874 and 1880. In these years the inclusion of the less exact figures for iron trades and mining makes an appreciable difference. For 1891 the figure is exactly the same if the number for cotton is included.

When reliable figures have been obtained for various years in any one trade, it is often possible to state figures for intermediate years which cannot differ by more than perhaps 10 per cent. from the true figure. This is especially true in regard to those trades which do not show violent fluctuations, but only gradual changes.

For instance, we obtain the following percentage changes for agricultural wages:—

1860.	1870.	1880.	1886.	1892.
100	107	122	111	118

which rest on fair evidence.

We need a figure for 1883. What evidence there is shows a fall beginning about 1882 and continuing until 1886 and later. The number for 1883 must therefore lie between those for 1880 and 1886, unless some extraordinary unknown change took place at that period, and we are on fairly safe ground, if we write $\underset{\pm 4}{\overset{1883}{117}}$; meaning by this that if 122 and 111 are accepted for 1880 and 1886, then the number for 1883 must lie between 113 and 121.

Figures which are the result of this sort of approximation are carefully distinguished. It is necessary to have them, because otherwise the effect of a low wage in one trade would be entirely lost in a year when a figure was not entered, and an artificially high number thus obtained.

In Table III numbers about which this sort of doubt exist are entered with the limits between which they may be expected to lie. In the resulting average for that table the greatest possible effect of these errors is also entered. As already said, an error of ± 5 even in a trade containing 20 per cent. of the total number considered, cannot introduce an error of more than ± 1 per cent. in the average; and if more than two doubtful figures are given for the same year, the chances are that they will tend to neutralise each other. In spite of the obvious objections to which this method of approximation is open, I think that careful study of the table will show that, by using these figures, we must get a result more nearly correct than if we omitted them altogether.

In dealing with wages of cotton operatives we can obtain very fair information for both weaving and spinning, but not in the same years. Here by studying the changes in weaving and spinning price lists, we can get some idea of the periods at which wages increased or diminished, though they are very misleading as to the amount of such changes. It will be seen (in the Appendix) that this consideration enables us to get within small limits the numbers for 1883 and 1886 which are necessary for the final compilation, and are not directly given.

Similar remarks apply to the woollen manufacture. In this case it is very difficult to get any number for 1891; but there is so much evidence for a fall, that it seemed expedient to enter a figure with wide limits of possible error.

For workers in gasworks and for sailors, figures are obtainable for nearly all the years required. In the case of gas the number employed is so small in proportion to the total dealt with that no error would easily affect the result.

For mining the evidence of change is good for many periods; but it is difficult to find exactly what points wages returned to after each inflation. The consequence is that all the figures must be given with possible limits of error.

This obstacle is doubly great in the case of the iron trades. When I found how hard it was to tackle accurately the mass of partially conflicting evidence, I nearly decided to leave the result doubtful, and not to use the numbers in the final table. But closer examination showed that, doubtful as many of the details were, it was possible to find numbers within such limits that they could not introduce any great error in the final result; while the inclusion of those parts of the series of figures for the iron trades which were comparatively certain, would have much effect in making the result representative of a wider sphere of industry.

7. *Construction of Tables III and IV.*

In Table III the results for each different trade are entered from the details in the Appendix. The percentage of persons employed in each trade has been roughly estimated from the census of 1881. These percentages have been used as weights, and the average taken. The resulting numbers represent the first approximation to the percentage increase of average wages.

In Table IV the same thing has been done; but only the numbers which are relatively free from doubt have been entered from the Appendix.

The resulting numbers in the two tables are very similar, and we may therefore expect that the inclusion of more details in Table III, if such could be found for any other trades, would not alter the result by any very great percentage. This is confirmed by the fact that when I made the first draft of the table twelve months ago[10] with different details and less complete information, I obtained (except for 1874) the same result within 1 or 2 per cent.

8. *The Effect of Difference of Wages in* 1860, *and of the Changing Proportions of Numbers employed in Groups of Trades.*

In Table V I have examined what alteration is produced when allowance is made for the difference of wages in the various employments in 1860, and the changing proportions of the numbers working in each. To do this it has not been necessary either to estimate the wages or the numbers accurately. An error in the estimate of actual wages in any one trade will produce an effect indeed on the amount of wages with which we are not concerned but very little on the ratio of wages in different years. An error in the change of proportion employed in each will have still less effect.

I have not attempted to find the amount of wages in different trades, but only the proportion which they bore to each other in 1891.

Mr. Giffen's estimates for average wages in *Textile* trades (men, women, and children) and in *Mines* are 33*l.* and 52*l.* respectively in 1886; by means of the ratios in Table III these become 37*l.* and 72*l.* respectively in 1891. For Agriculture I have approximated from Mr. Little's Report, and obtain 40*l.* as the average wage. Mr. Valon's evidence before the Labour Commission indicates about 73*l.* per annum as the average wage in *Gas* works in 1891. Average wages of A.B. Seamen appear to be 90*s.* per month; adding 10*s.* per week for the value of their provisions, we obtain 80*l.* per annum. Average wages (summer and winter) in the *Building* trades were about 33*s.*, and in the heavy *Iron* trades about 34*s.*[11] per week in 1891; but referring to the above-mentioned returns for textiles, it is found that it was necessary in that case to make a reduction of about 16 per cent. from nominal weekly wages to obtain the normal earnings for the year. It will be fair to take off 16 per cent. also from wages of seamen and wages in gas works and in the iron and building trades. We accordingly get the following list:—

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[10] The original draft of this paper obtained the Adam Smith Prize (Cambridge, 1894).

[11] In both cases foremen's, piece-workers' and labourers' wages are not given in the Trades Union Reports. I have been obliged to assume for the purposes of this table that their inclusion would not greatly affect the ratio.

Numbers Proportional to Wages in 1891.

	Textiles.	Agriculture.	Building.	Coal.	Iron.	Seamen.	Gas.
Wage	37*l.*	40*l.*	72*l.*	78*l.*	74*l.*	67*l.*	61*l.*
Proportion (Textiles = 100)	100	108	195	211	200	181	164

The numbers for other years are computed from Table III, as explained below, Table V.

In choosing the percentage of numbers employed, I have been guided by the Census. The data on which Table III is compiled do not cover so wide a ground as the Census figures; but I have considered the possible errors which this might introduce, and found that their effect on the last line of the table must be very small.

TABLE V.—*Changes of Wages in Groups of Trades, each being weighted in proportion to the Number Employed at each date, and allowance being made for the different Levels of Wages in* 1860.

	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Textiles— Wage ratio	62½	75	75	88	88	82	87½	89	100
Percentage of number employed to whole number referred to in table	20	20	20	20	21	21	21	21	21
Agriculture— Wage	92	97	98	120	122	112	107	102	108
Percentage employed	34	31	29	27	26	25	25	25	24
Building— Wage	152	177	177	192	195	191	191	192	195
Percentage employed	18	20	21	22	22	24	25	25	25
Coal mining— Wage	141	*146*	141	211	162	141	162	141	211
Percentage employed	10	11	12	13	13	13	13	13	13
Iron and Steel— Wage	160	180	183	205	193	189	198	193	200
Percentage employed	10	10	10	11	11	11	11	11	11
Seamen— Wage	127	143	131	164	157	129	150	139	181
Percentage employed	7	7	7	6	6	5	5	5	5
Gas— Wage	110	127	132	138	141	141	143	143	164
Percentage employed	1	1	1	1	1	1	1	1	1
Weighted average	111	126	126	154	146	138	145	140	156
The same reduced proportionately, so that 1860 = 100	100	113	113	*138*	132	124	130	125	140

Explanation of Table V.

In this table 100 is taken as the textile wage in 1891.

The numbers just found for other trades in 1891 are then entered in the 1891 column opposite the corresponding trade.

In Table III the numbers for textiles in 1886 and 1891 are 143 and 160. This 160 having been taken as 100 for the purposes of this table, 143 must be taken as $\frac{100}{160}$ of $143 = 89$; 89 is therefore entered opposite textiles in the 1886 column. By the same arithmetical process all the textile numbers in Table III are reduced to corresponding numbers in this table.

In Table III the number for agriculture for 1891 is 118; in this table it is 108. The numbers for agriculture in Table III must therefore all be reduced in the ratio 118 : 108 to find the corresponding numbers for this table.

Similarly for other trades. The numbers now found represent the average wage in each group of trades in each year, when the textile wage for 1891 is taken as 100.

Underneath each of these figures is written the percentage number engaged in the corresponding year in the corresponding trade.

Each wage number is weighted with the corresponding percentage number employed, and the average for each year then taken and entered in the last line but one.

This works out so that the average for 1860 is 111. The whole line is then reduced proportionately so that the number in 1860 becomes 100.

The final line is then to be compared with the last line of Table III. The difference between the two shows the change introduced by allowing for the changing proportions of numbers employed, and the difference of wages in 1860.

The last line is subject to the same limits of error as the last line in Table III.

We have now obtained the result for which we have been working, viz.: the percentage increase of average (money) wages in a combination of typical trades. It is with a view to their influence on this result that all former figures should be criticised. The greatest of all the errors involved by our method in Table III has, when corrected in Table V, in each case shown a difference of less than 5 per cent.

II.—Changes in National Income, other than Wages.

I have not attempted any new estimate of income subject to income tax, but I have been obliged to slightly alter the method of old estimates to make them exactly suit my purpose.

My estimate is based on Dr. Giffen's essay on "Recent "Accumulations of Capital."[12] To the gross income assessed there are three additions to be made. Firstly, it is supposed that a large portion of profits from trades and professions escapes tax; secondly, there is reason to believe that much, though a decreasing proportion, of interest on investments abroad is not taxed; thirdly, there is the great but unknown amount of incomes that would appear in various schedules, but for the exemption limit of 150*l.* As regards the first of these items, there appears to be no better method than to adopt Mr. Baxter's old estimate, that one-fifth of trade profits[13] elude the tax-collector.

For the second, our ground is a little firmer. By a careful scrutiny of import and export statistics which I made in 1891,[14] I was able to obtain an estimate of the interest reaching us from abroad in different years.[15] Subtracting from these figures the amount which appears in Schedules C and D, we obtain the third line of the following table, in which will be found the various items of the total estimate.

TABLE VI.—*Estimate of Income assessed to or eluding Income Tax.*
(1 = 1,000,000*l.*)

Years..........	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Gross income assessed..	322	413	444	543	570	576	612	629	698
Profits of trade, &c., eluding tax............	15	22	25	33	33	32	35	35	38
Foreign investments, eluding tax............	39	50	52	59*	49	44	49	51	46
Total subject to income tax (gross)	376	485	521	635	652	652	696	715	782

* Dr. Giffen gives 40,000,000*l.* for 1875, but considers that he has understated the amount.

The data for estimating the total of the small incomes, salaries and pensions, which are not assessed at all, are very insufficient.

In 1853 a gross assessment of 14,000,000*l.* was added, by

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[12] "Essays in Finance," 1st series, p. 163 *et seq.*

[13] Id., p. 165.

[14] *Vide* "England's Foreign Trade in the Nineteenth Century," in the "Social "Science Series," p. 163 *et seq.*

[15]	1860.	'66.	'70.	'74.	'77.	'80.	'83.	'86.	'91.
Viz.:—	£ 45	£ 60	£ 66	£ 79	£ 79	£ 76	£ 84	£ 96	£ 99 mlns.

including incomes between 100*l.* and 150*l.*; this represents some 110,000 incomes (28th Report of Inland Revenue Commissioners, p. 74).

In 1863 there were some 200,000 incomes assessed between 100*l.* and 200*l.*

In 1875, the raising of the limit of exemption from 100*l.* to 150*l.* excluded 240,000 persons from assessment (20th Report, p. 52); this indicates a definite income of some 30,000,000*l.* not included in the gross assessment.

Mr. Baxter estimated that there were 1,500,000 persons in 1867 with incomes under 100*l.*, amounting in the aggregate to 81,000,000*l.*, who were not assessed at all ("National Income," p. 64).

Now, considering the increase in average income since 1860, we see that the dividing line drawn at 150*l.* in 1891 may be expected to cut off the same proportion of aggregate income as the line at 100*l.* in 1860; but in 1891 a larger proportion of this income is assessed and then excused than was the case in 1860; so that, if the unassessed income in 1860 was one-fifth of the gross assessment (as Mr. Baxter's estimate for 1861 indicates), the unassessed income in 1891 might be expected to be one-sixth of the gross assessment, viz., 130,000,000*l.*

Again, as average income increased, while the limit of exemption remained the same, the fraction below the limit would diminish. In 1876, at the raising of the limit, the amount, as we have seen, made a jump of 30,000,000*l.*; at that date therefore the fraction would become larger, but would again diminish, and to a lower level by 1891.

Taking Mr. Baxter's estimate for 1866, we may then approximate and get the following figures:—

TABLE VI A.—*Unassessed Incomes.*

(1 = 1,000,000*l.*)

	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Gross assessment	322	413	444	543	570	576	612	629	698
Unassessed income ...	64	81	85	100	130	126	122	125	130

Mr. Levi's estimates for this amount were 120,000,000*l.* in 1867, and 140,000,000*l.* for 1882 ("Wages and Earnings of the Working "Classes," vol. ii, p. 6); but he does not there state the method by which he obtained them.

Dr. Giffen's estimate for incomes under 150*l.* in recent years was from 150,000,000*l.* to 200,000,000*l.*,[16] from which should be subtracted 57,000,000*l.*, which is included in the gross assessment to obtain a figure comparable with the above; so that he considers 100,000,000*l.*[17] as a safe estimate for unassessed income in 1891.

Without going further at present into this very intricate question, I think it may be granted that the error in the *increase* shown in Table VI A cannot be great enough to materially affect our general comparison; while the inclusion of this rough estimate will give us a fairer view of the relative increments and amounts of wages and income.

By using the gross assessment I have included a comparatively small sum (7,000,000*l.* in 1891) which is not truly income; but it was not possible to make the necessary allowance in previous years, and the inclusion will not perceptibly alter any comparison.

III.—COMPARISON OF THE CHANGES OF INCOME AND WAGES.

1. *Table of Results and Explanation of Table.*

The figures at our disposal have proved so incomplete, that perhaps it would have been better to wait till the tables already given had been criticised and if possible made more typical, before trying to compare the rates of change of income and wages. Since, however, I see at present no means of including any other trades, it is perhaps worth while to proceed, taking the figures for what they are worth, leaving to each critic the task of deciding how far they are typical of English industry as a whole.

As an example of the method on which more reliable figures, if at some future time they can be obtained, may be used, and to obtain an approximation to the actual facts, I have assumed that the resulting figures in Table V are typical.

In order to emphasize the fact that the analysis rests on insufficient data, I have so far avoided making any estimate of the actual amount of average wages. In compiling Table VII I have used Dr. Giffen's estimate for 1886 of the gross sum paid in wages, and by means of the numbers I have found, combined with the changes of population, estimated the gross sum paid in other years. This should not be criticised as an estimate of wages, but only as a step towards comparing the increase of wages with the increase of income; and it should be especially noticed that all the estimates of actual amounts of wages as distinguished from those of their relative changes depend on Dr. Giffen's 1886 estimate.

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[16] Labour Commission (as a whole). Questions 6921 and 8139. I am not clear whether the date should be 1893 or 1886; but the wide limit given makes this of little importance.

[17] So I gathered from information kindly given to me privately.

TABLE VII.—*Relative Changes of Total and Average Incomes and Wages of Whole Population.*

Year.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	00,000's omitted.		Percentage Increase of Average Weekly Wages. 1860=100.	Annual Average Wage. From Col. 3. Taking 1886=48*l.* as base.	Total Annually Paid in Wages. (From Cols. 2 and 4.)		Total Income not Received as Wages.				Whole National Income. Cols. 5, 7, and 9 added.	Whole Population. 00,000's omitted.	Average Income of Nation. (From Cols. 11 and 12.)		Col. 3 and Col. 14 Corrected by Sauerbeck's Index Numbers.	
							Subject to Income Tax.		Not subject to Income Tax.							
	Number of Persons Earning Independent Incomes.	Number of Manual Labourers.			Amount.	Percentage of Col. 11.	Amount.	Percentage of Col. 11.	Amount.	Percentage of Col. 11.			Amount.	Percentage Increase. 1860=100.	Real Average Wages.	Real Average Income.
				£	Mln. £		Mln. £		Mln. £		Mln. £		£			
1860	13,3 × 0·77 = 10,2		100	38·4	392	47	376	45⅓	64	7⅔	832	28,7	28·9	100	100	100
'66	13,9	10,7	113	43·4	464	45	485	47	81	8	1,030	29,3	35·1	121	110	118
'70	14,5	11,2	113	43·4	486	44½	521	48	85	7½	1,092	30,0	36·4	126	116	130
'74	14,9	11,5	138	53·0	609	45¼	635	47¼	100	7½	1,344	32,4	41·5	143	134	139
'77	15,2	11,7	132	50·7	591	43	652	47½	130	9½	1,373	33,4	41·1	142	139	148
'80	15,5	11,9	124	47·6	567	42	652	48½	126	9½	1,345	34,5	38·9	135	139	152
'83	15,8	12,2	130	49·9	609	42⅔	696	49	122	8⅓	1,427	35,3	40·4	140	157	168
'86	16,3	12,6	125	48	605	42	715	49½	125	8½	1,445	36,3	39·8	138	180	198
'91	16,9	13,0	140	53·8	699	43½	782	48½	130	8	1,611	37,8	42·7	147	192	202

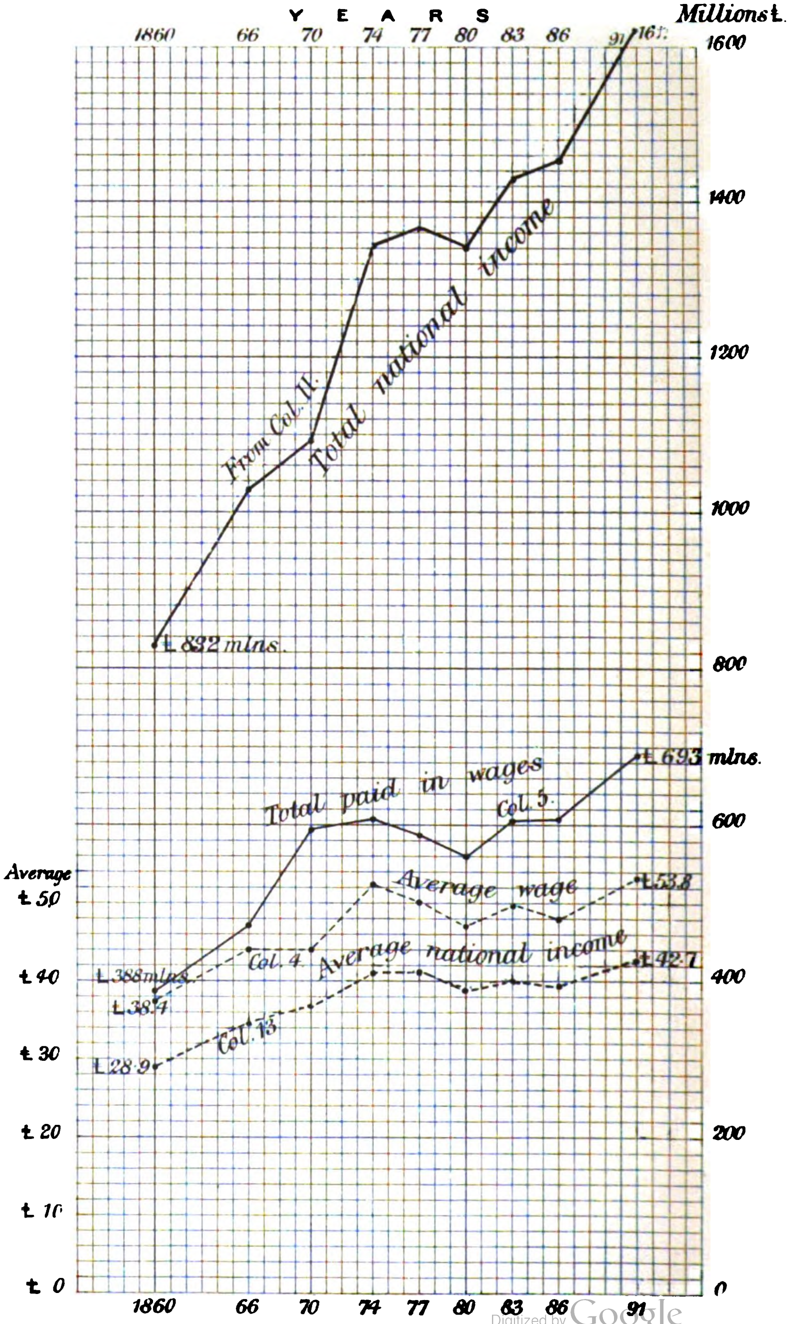
Figures in Col. 3 are from Table V. Figures in Col. 7 are from Table VI.

To compare relative progress of total income tax income and total manual wages, use Cols. 6 and 8.

" average manual labour wages and average national income, use Cols. 3 and 14.

DIAGRAM SHOWING THE RELATION BETWEEN INCOME AND WAGES, TOTAL AND AVERAGE.

(*From Table VII.*)



The comparison between wages and income has been effected in Table VII. In the first column are given the number of persons earning an independent income from the census.[18] It was found that the number of manual labourers mentioned by Dr. Giffen[19] and those used by Mr. Levi in his two estimates are in each case very nearly equal to the census numbers of persons earning an independent income multiplied by 0·77. Assuming this to be always the case, the numbers in Col. 1 have been multiplied by 0·77, and so Col. 2, which gives numbers of wage-earners, has been obtained.

Taking 48*l.* as the average wage in 1886 (Mr. Giffen's estimate)[20] we find the average wages in other years by means of the resulting numbers in Table V (here entered in Col. 3), and so complete Col. 4.

Multiplying the average wage by the number of wage-earners, we have the total paid in wages (Col. 5).

Cols. 7 and 9 give income, reckoned in the manner just explained. Adding Cols. 5, 7, and 9 we find the whole national income (Col. 11); and hence can find the percentages which wages and income respectively represent (Cols. 6, 8, and 10). Col. 12 gives the whole population, from census returns. Col. 13 gives the average income, found by dividing Col. 11 by Col. 12; and finally Col. 14 gives percentage increase shown in Col. 13.

Now comparing Col. 3 with Col. 14, we see the rates of increase of average wages and of average gross national income respectively.

It is important to notice that Col. 14 would have only been altered by 1 per cent. in the last figure if we had left out all estimated income and confined our attention to wages and Government income tax returns only; and that the changes introduced by possible errors in Cols. 1 and 2 and in the wage for 1886 in Col. 4 will have equally small effect.

This table is repeated in a diagram, where the increase in gross and average income and wages can be easily seen. A smaller diagram compares the rates of increase of average national income (*i.e.*, gross national income divided by the population) and average wages. This diagram has been drawn on a logarithmic scale, because that method gives the fairest bird's-eye view of the different rates of progress.

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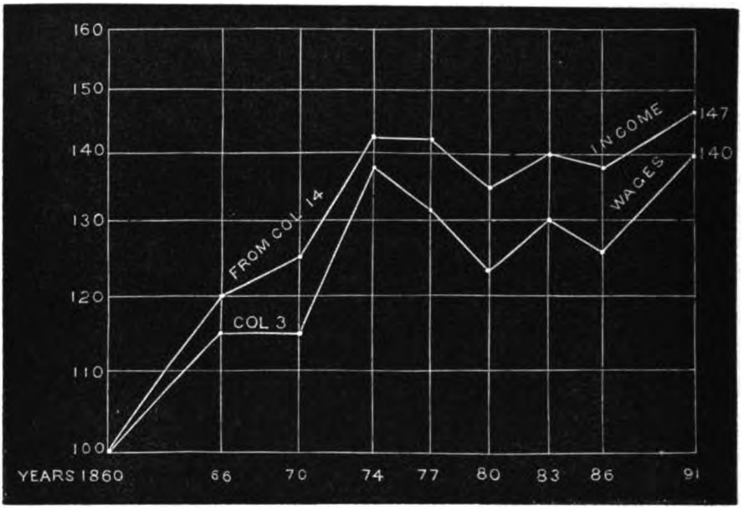
[18] Numbers for intermediate years are interpolated.

[19] *Cf.* Dr. Giffen's evidence, Labour Commission, sitting as a whole. Questions 6918—18.

[20] Id.



2. *Change in Purchasing Power of Money.*

The diagrams do not take account of the increased purchasing power of money, and it is absolutely essential to make full allowance for this before any real idea can be obtained of the progress that has been made. In Cols. 15 and 16 the rates of change (Cols. 3 and 14) are corrected by Sauerbeck's index number. According to him 72*l.* in 1891 had the same purchasing power as 99*l.* in 1860. The rate of increase of wages is therefore not merely 40 per cent., but $\frac{140}{100} \times \frac{99}{72} = \frac{192}{100}$;[21] that is to say, average wages have nearly doubled, while average income has more than doubled in thirty years.

3. *Limitations of Results.*

In Col. 6 we see that wages have borne a fluctuating ratio to gross income; on the whole the ratio diminished from 1860 to 1880, and has since then been steady. It would, however, be a mistake to assume that wages have really been a diminishing fraction of national income. We have not in our method been able to take completely into account the gradual displacement of low-paid by more highly-skilled labour. In individual trades this change has influenced our figures to some extent, and the effect that the diminution of agricultural labour has had in this direction has been completely allowed for. But the fact that new trades have not entered at all into the calculation must be carefully borne in mind.[22]

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[21] Numbers for intermediate years are worked on the same principle.

[22] Compare Mr. Giffen's "Progress of the Working Classes" ("Essays in "Finance"). This part of the argument was suggested by Professor Marshall.

At the same time it must be remembered that index numbers do not take account of rent or of personal services. It is an open question whether increased rent is altogether due to improved accommodation; and with the increase of wages, personal services have, of course, become more expensive. It is also doubtful how closely retail prices follow the course of wholesale prices, on which the index numbers are based.

We must further remember that no account has been taken of any change in the amount of slack time, or of the number of unemployed, into which vexed question I do not propose to enter.

Finally, the figure given is for 1891, not for 1894; during that interval many changes have taken place in wages, and the purchasing power of money has increased.

There are some striking points of resemblance between these figures and the statistics of foreign trade. We see a great increase between 1860 and 1874 both in average income and wages, and in total imports and exports; a drop and a rise before 1883, and another before 1891. Moreover, the figure in 1891 is little greater than that in 1874. In fact, my figures indicate that wages were practically the same in 1874[23] and 1891, and that the increase since then has been due to the increased purchasing power of money.

4. *Conclusion.*

The conclusion I should draw from the whole calculation is that the inadequate information extant indicates that average income and average wages have increased at nearly equal average rates, and that both have nearly doubled during the period under review.

While we may congratulate the whole nation on the immense growth of its national prosperity, so far as this is measured by gross receipts, it is not fair to grudge the working classes the share which they have gained. Those who receive the average or more than the average may be fairly considered to have obtained a wage which allows them to fully employ all their faculties in their well-earned leisure; but this cannot be said of the equally large number whose earnings are below the average. In so far as actual want is now only the lot of a small proportion of the nation (though intrinsically a large number), and comfort is within the reach of increasing masses of workmen, the greatest benefit of this prosperity has fallen to wage earners; but this is only the righting of injustice and hardship. In 1860 it was the working classes who were in most need of any benefit that might accrue to the nation, and it would have been only reasonable to expect that their progress in actual money (apart from better conditions of work) should be at least as rapid as that of the richer classes.

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[23] The figure for 1874 rests on more doubtful evidence than those for other years; but I do not think it is too great. Perhaps it belongs more properly to 1873.

It will not be time to consider whether their share is becoming too great, till not only hours and hardships of work are reduced, and their labour is no more destructive of their higher faculties than is that of the middle and upper classes, but till a large share also of the sources of comfort, pleasure, and relaxation now out of reach of any but the most prosperous of them has become the lot of the ordinary labourer, and till poverty is no longer possible for anyone engaged in ordinary work. At present, every effort made to prevent a return to former wages,[24] and every advance obtained in times of prosperity, deserves our warmest sympathy.

APPENDIX.

I.—*The Agricultural Labourer.*

"Returns of Wages" gives figures for districts and counties in 1860 and 1870.

In the Report of the Richmond Commission similar figures are given by Mr. Druce for 1870 and 1880.

These results (viz., 1870 and 1880), together with figures from Mr. Kebbel's "Agricultural Labourer," are retouched and combined by Mr. Little in his "General Report on the Agricultural Labourer" (vol. v, part 1, p. 61), and tabulated with his estimate of current wages in 1892-93, based on evidence collected by the Agricultural Sub-Commissioners of the Labour Commission.

Many of these figures I had worked at independently, but I have adopted Mr. Little's figures *in toto*.

These data have been used on the following plan:—The districts and counties have been grouped in their geographical divisions, the arithmetic average of the wages given in the sub-divisions of each group taken, and the percentage increases for each group worked out, 100 being taken as the number for 1860 in each case.

The table of actual earnings, including allowances, as distinguished from nominal wages, for 1870 and 1892, given by Mr. Little on p. 84 (Id.), has been treated in the same way, the number already found for the group for 1870 being taken as the basis.

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[24] When the purchasing power of money is rapidly increasing, a decrement both of incomes and wages (measured in money) may, however, be expected.

The increments in earnings and wages thus found are 9 and 11 respectively on 107, though they differ considerably in each group; this result reduces the necessary risk involved in dealing with wages, instead of with earnings, figures being very scarce for the latter.

TABLE VIII.—*Wages of Agricultural Labourers.*

[Percentage changes in each group of counties.]

Groups.	Numbers Employed. (000's omitted).	Nominal Weekly Wages.				Annual Earnings (1870 basis) including all Allowances.
		1860.	1870.	1880.	1892.	
S. Eastern	133,	100	103	117	108	102
S. Midland	121,	100	115	131	127	122
E.	118,	100	99	111*	105	104
S.W.	112,	100	103	126	120	123
W. Midland	99,	100	113	132	124	128
N. Midland	83,	100	105	108	116	116
N.W.	44,	100	109	119	131	121
N.	29,	100	111	118	118	131
Monmouth	5,	100	110	103	107	125
Yorkshire	62,	100	116	129	126	113
Averages (I)	—	**100**	**107**	**122**	**118**	**116**
„ (II)	—	100	107	122	117	—
„ (III)	—	100	108	119	118	—

* From the evidence on next table it appears that this figure should be higher.

The first average is obtained by weighting the figures with the number of labourers in each district from census returns (the proportions have varied very little since 1860), and also allowing for the difference of wages earned in different districts, *i.e.*, taking different bases in 1860 instead of the uniform 100.

The second, which is practically the same as the first, comes by weighting by numbers employed only, and keeping 100 as the 1860 base.

The third is merely the arithmetic mean of the numbers in the table.

This result is a remarkable illustration of the general law, that the *ratios* of averages obtained from sufficiently large and typical sets of figures will be practically the same on whatever consistent plan they are treated. The close approximation of the resulting numbers for wages and earnings is another illustration.

We may perhaps conclude that, even if the individual figures could be made more complete and more accurate, and allowances made for more disturbing influences, the *ratios* of the results obtained would be unaltered.

There is much scattered information in the reports of all the Commissions relating to agriculture with regard to the intervening years. This is summarised in Table IX. In addition I have obtained wages on a Suffolk farm from 1860 to 1874 from the "Royal Agricultural Society's Journal," and Mr. Little has kindly sent me a list of wages and earnings in his neighbourhood.

From these figures we can get a figure for the period 1865-67. Comparing that period with 1860 and 1870, in each case we see that it lies in respect of wages between the two. The number taken (105) cannot well be more than 5 per cent. wrong. I have therefore entered it as 100—110. Taking the average of all the figures for 1873-76, we get 134 as the number for that year.

It is further necessary to get separate figures for 1874-77. The maximum of the inflation of wages appears to have been reached at dates varying from 1874 to 1879 in different districts. 1874 and 1877 are, on the whole, similar years—one a little before, and the other a little after the maximum average. I have concluded that 125—135 and 127—137 are the best numbers to interpolate in Table III. The figure for 1883 has been already discussed in the text. In a paper by Major Craigie in the "Journal of the Farmers' Club," December, 1888, figures are collected from the sources already mentioned, and also by a special inquiry, which reduced to the numbers in Table IX. Allowing for the difference in grouping, they agree in every case with the numbers already obtained. They in addition give complete figures for 1888, and figures including more than half England for 1878. Combining this latter with the high figure for Durham in the same year, it appears that the general fall from the high figures in 1877 had already made some progress, and 130 (125—135) for 1878-79 is a number which can be relied on.

In 1886 earnings (at any rate in Cambs) appear to have been higher than wages; but since we have found that the rates of increase of wages and earnings are the same in the period 1870-92, we may perhaps regard this as exceptional. It should be stated that the numbers here obtained refer to short periods, not to individual years; by 1870 we mean the period 1869-71, the exact time at which the figures were obtained being generally doubtful.

We have now the following figures :—

Wages of Agricultural Labourers.

1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
100	105 ± 5	107 ± 2	130 ± 5	132 ± 3	122	117 ± 4	111	118 ....

TABLE IX.—*Table giving subsidiary Details of Agricultural Wages.*

(Base numbers underlined.)

Wages at single farms.	1860.	'61.	'62.	'63.	'64.	'65.	'66.	'67.	'68.	'69.	'70.	'71.	'72.	'73.	'74.	'75.	'76.	'77.	'78.	'79.	'80.	'81.	'82.	'83.	'84.	'85.	'86.	'87.	'88.	'89.	'90	'91.	'92.
Richmond Commission—																																	
Durham	100	100	100	100	108	115	115	115	115	115	115	115	136	138	146	138	138	138	138	115	—	—	—	—	—	—	—	—	—	—	—	—	—
Northumberland	Aver	age,	1851	-60,	100.	Av	erag	e, 18	61-7	0, 11	4.	—	—	—	152	Av	erag	e,'71	-80,	147.	130	—	—	—	—	—	—	—	—	—	—	—	—
Leone Levi—																																	
Northumberland	100	100	—	—	—	98	—	—	—	—	106	—	—	—	—	147	—	—	—	—	116	—	—	—	—	—	—	—	—	—	—	—	—
Labour Commission—																																	
Norfolk { 1	100	100	105	100	95	100	105	120	130	105	100	105	130	135	140	135	135	110	130	130	120	120	120	120	110	110	110	110	110	105	120	120	—
Norfolk { 2	—	—	—	—	—	—	—	—	—	95	100	105	130	140	145	130	150	135	135	120	120	110	120	120	120	110	100	100	100	100	110	120	120
Suffolk { 1	100	110	110	100	100	100	100	111	120	100	100	100	120	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Suffolk { 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	127	127	127	127	117	117	117	117	117	107	107	107	107	107	107	102	117	117	—
R.A.S., 1874—																																	
Suffolk 3	100	110	110	100	100	100	100	110	120	100	100	100	120	120	130	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mr. Little—																																	
Cambs. { Wages	100	100	109	100	100	105	114	123	123	109	105	109	118	118	118	123	131	127	131	118	109	109	109	114	118	109	109	109	109	109	109	109	109
Cambs. { Earnings	100	100	100	107	110	100	107	117	126	110	115	112	120	124	128	128	128	128	133	133	115	118	112	128	1.8	124	126	126	—	—	—	—	—
Richmond Commission (Mr. Little's summary): Evidence of witnesses—																																	
Bucks	—	—	—	—	—	—	—	—	—	—	—	—	—	109	—	—	153	—	—	—	131	—	—	—	—	—	—	—	—	—	—	—	—
Cambs	—	—	—	—	—	100	—	—	—	—	115	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Suffolk	—	—	—	—	—	—	—	—	—	111	—	—	—	—	—	—	—	—	—	126	111	—	—	—	—	—	—	—	—	—	—	—	—
Wilts {	—	—	—	—	—	—	—	—	—	—	103	—	—	—	—	—	112	—	—	—	106	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	103	—	—	—	—	—	130	—	—	—	108	—	—	—	—	—	—	—	—	—	—	—	—
Warwick	—	—	—	—	—	—	—	—	—	—	—	—	105	—	—	—	151	—	—	—	132	—	—	—	—	—	—	—	—	—	—	—	—
Lincoln	—	—	—	—	—	—	—	—	—	—	108	—	—	—	130	—	(Ma	xm.	in '7	9.)	108	—	—	—	—	—	—	—	—	—	—	—	—
Lancs	—	—	—	—	—	99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	119	—	—	—	—	—	—	—	—	—	—	—	—
Oxon	Aver	age,	1861	-66,	100.	—	Av	erag	e, 18	67-7	2, 11	8.	—	Av	erag	e, 18	73-7	8, 12	7.	—	118	—	—	—	—	—	—	—	—	—	—	—	—
Kent and Sussex union }	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	135	—	—	—	117	—	—	—	—	—	—	—	—	—	—	—	—
Major Craigie—																																	
East	100	—	—	—	—	—	—	—	—	—	103	—	—	—	—	—	—	—	125	—	—	117	—	—	—	—	—	101	—	—	—	—	—
Midlands	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	127	—	—	123	—	—	—	—	—	114	—	—	—	—	—
West	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	128	—	—	—	—	—	116	—	—	—	—	—
North	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	—	—	—	—	—	111	—	—	—	—	—
Average for England	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	123	—	—	—	—	—	111	—	—	—	—	—

II.—*Cotton.*

From "Returns of Wages" (pp. 48—51) we obtain:—

Manchester.

A.

	1860.	1874.	1877.	1880.	1883.
Spinning…………	100	—	140 to 156	127	136
Weaving…………	100 (2¼ looms)	—	143 (2¾ looms)	—	—
Cardroom ………	100	149	158	152	146

I have only the following information as regards average number of looms per weaver:—

1. Mr. Andrew's[25] opinion is that the numbers would be—

	1860.	1869.	1879.	1889.
Number of looms per weaver….	2¼	2½	2¾	3¼

2. In tables given by Mr. Lord (Commission on Trade Depression, 1866, II, 1,377):—

	1850.	1883.
Average numbers actually worked in one mill were……..	2·74	3·88
,, in another approximately ………………	2	3

I have used Mr. Andrew's numbers throughout in this respect.

In "Fifty Years of the Cotton Trade," p. 67, *Mr. Ellison* gives estimates by Mr. Chadwick for 1859-61, and by himself for 1880-82 which indicate:—

B.

	1860.	1880–82.
Spinners …………………	100	136
Weavers …………………	100	127

With this may be compared Mr. Lord's tables just mentioned, which show:—

C.

	1860.	1870.	1877.	1883.
Spinners …………………	100	121	160	155
Weavers …………………	100	111	116	118

---

[25] Mr. Andrew, in an interview last August, kindly gave me information on the various points on which I have quoted his opinion in this and the following pages.

but his figure for self-acting minders in 1860 (viz., 18*s.*) is lower than those in "Returns of Wages," which are 20*s.* and 22*s.*; and he appears to have taken an average of nearly 3 looms per weaver as early as 1860.

Mr. Andrew "does not agree with Mr. Lord's numbers." For these reasons and because Mr. Lord's object was to compare 1850 (not 1860) with 1883, I have given his figures less weight than Mr. Ellison's and others.

In the "Report of Factory Inspectors," 1883, *Mr. Henderson* gives tables of wages in what he regards as typical mills, from which the following numbers are obtained:—

Two Mills in Scotland and Cumberland.

		1856.	1860.	1870.	1874.	1875.	1884.
Cardroom	1	87	100	115	119	125	127
	2	88	100	121	—	139	126
Spinning	1	100	100	122	143	143	158
	2	77	100	137	—	177	147
Reeling	1	105	100	97	139	121	164
Weaving	2	93	100	129	—	140	131
Average for all persons employed	1	99	100	112	137	131	154
	2	90	100	127	—	139	143

One Mill in Preston District.

D.

		1860.	1870.	1875.	1883.
Cardroom	3	100	108	129	129
Spinning	3	100	109	118	127
Winding	3	—	108	120	125
Weaving	3	—	*125 (2½ looms)	154 (2¾ looms)	188 (3 looms)

* *Vide* next page.

In evidence given before the Commission on Trade Depression, 1886, Mr. Andrew stated that actual wages of spinners decreased 7½ to 10 per cent. between 1877 and 1885; and the Darwen Cotton Spinners' Association stated that actual wages rose 8 to 12 per cent. between 1865 and 1885; taking 139[26] as the number for 1885, we obtain:—

E.

	1865.	1877.	1885.
Spinners	127	153	139

[26] *Vide* next page.

Mr. Andrew informed me that while the speed of machinery had increased 20 per cent. since 1877, operatives' earnings had increased 10 per cent. apart from changes in the list. Since the list price had fallen (with fluctuations) 7·91 per cent. since 1877, we have:—

F.

	1877.	1893.
Spinners	153	155

The changes in the Oldham price list are:—

Oct., 1877, — 5 per cent.; May, 1878, — 5 per cent.; Nov., 1878, — 5 per cent.
Oct., 1879, — 5 per cent.; Feb., 1880, + 5 per cent.; Jan., 1881, + 5 per cent.;
Oct., 1885, — 5 per cent.; May, 1888, + 5 per cent.; Jan., 1891, + 5 per cent.;
May, 1893, — 2·91 per cent.

There was also a rise of 20 per cent. between 1871-76 (Schulze-Gaevernitz "Social Peace," p. 165).

It will be found that the following figures reconcile all these statements, except Mr. Henderson's figures for Scotland, where the course of wages appears to have been different, and Mr. Lord's figures:—

(1.)

	1860.	1865.	1870.	1877.	1880.	1883.	1885.	1889.	1891.	1893.
Spinners	100	*127*	127	153	127	136	139	146	155	155

136 for 1883 is obtained from A and B, and rests on good evidence.

Between 1883 and 1885 there was no change in the list, and other causes had not time to have great effect. Machinery has quickened 20 per cent. in the last sixteen years; the effect of this in two years may perhaps be put at 2½ per cent., but hardly at more. Hence 139 for 1885.

Then 155, 153, and 127 are obtained for 1893, 1877, and 1865 from E and F.

127 for 1880 comes from A, and remembering that list prices do not do more than indicate changes in wages, agrees with the list reduction of 20 per cent., 1877-79, and rise of 10 per cent., 1880-81.

We have the following data to obtain a number for 1870:—

There is apparently no record of a strike or change of wages between 1865 and 1870, a period of prosperity in the cotton trade; and there was a nominal rise of 20 per cent. between 1870-77. 127 for 1870 satisfies both these conditions.

Between the summer of 1885 and 1893 wages have risen by the list from 90 to 92·09, that is to say from 139 to 142. They have actually risen from 139 to 155; a gain of 1 per cent. per annum apart from list changes.

Between 1889 and 1893, wages have also risen by the list from 90 to 92; allowing for a proportionate gain apart from the list, wages appear to have actually risen in the ratio 146 to 155. It will be seen that this number (146) for 1889 must be very nearly right, if those for 1885 and 1893 are correct. Similarly the figure for 1891 should be 155; the increase of speed being counterbalanced by a 3 per cent. reduction in 1893.

The figure for 1865 (127) needs additional support. I have not found any evidence of this increase immediately after the cotton famine. It depends on the statement of the Darwen Cotton Spinners' Association of the change of wages in twenty years, and perhaps really refers to a more recent date. Marking it as doubtful, we may regard it as merely confirmatory of the number for 1885.

Weaving.

Mr. Andrew gave me the earnings of weavers in 1869, 1879, and 1889 in the following form:—

	Hours.	Wages per Loom on Sixty Hours' Basis.		Number of Looms per Weaver.	Ratio.
		s.	*d.*		
1869	60	5	8½	2½	60 × 68½ × 2½
'79	56½	5	8½	2¾	56½ × 68½ × 2¾
'89	56½	6	4	3½	56½ × 76 × 3½

To obtain a number for 1879 to compare with the base 100 for 1860, we take 143 for 1877 from A; and noticing that there was a reduction of 10 per cent. in the Blackburn price list (weavers) in 1878, which would produce an immediate effect only to be neutralised in some years by improved machinery,[27] we get 130 for 1879; hence we get 125 for 1869 and 184 for 1889 from last column in table just given; and the 1869 number must be used as the basis in table D.

We have therefore:—

(2.)

	1860.	1869.	1877.	1879.	1889.
Weavers	100 —	125 (*120—130*)	143 (*136—150*)	130 (*125—135*)	184 (*175—193*)

---

[27] This of course leaves out the effect produced by slack time; in fact all these figures for the cotton trade represent a normal week's earnings, not actual annual receipts.

The number (130) for 1879 is remarkably near 127 for 1880-82 in B. In fact the closeness of the two results obtained from such different methods gives strong support to the sequence of the figures. All these figures depend on the number of looms employed. This number is not given accurately within ¼, and therefore the figures are not accurate within 5 per cent.; hence the wideness of the limits given. The great rise between 1860 and 1889 should be expected, since in 1860 a weaver tended an average of 2¼ looms at about 5*s.*; in 1889 3½ looms at about 6*s.*

D on the whole confirms these figures; the rise (22 per cent.) between 1875 and 1883 is not impossible, and if 120 was put instead of 125 in 1870, to allow for the list fall of 5 per cent. in May, 1869, the number for 1875 would be 148.

Carding.

A and D do not agree, and A being the more typical, must be preferred.

Mr. Andrew informs me that card room hands have gained 20 per cent. since 1877 owing to quickened machinery, but that the list is 8 per cent. below 1877 standard; from this we obtain 165 for 1889 and 173 for 1891 and 1893 in just the same way as we did for spinners:—

(3.)

	1860.	1874.	1877.	1880.	1883.	1889.	1891.	**1893.**
Carding	100	149	158	152	156	165	173	**173**

Combining (1), (2), and (3).

	1860.	'65.	'70.	'74.	'77.	'79.	'80.	'83.	'85.	'89.	'91.	**'93.**
Spinning....	100	*127*	127	—	153	—	127	136	139	146	155	**155**
Weaving....	100	—	125 ± 5	—	143 ± 7	130 ± 5	—	—	—	184 ± 9	184* ± 9	—
Carding	100	—	—	149	158	—	152	156	—	165	173	**173**

* Assuming (in the absence of any evidence of change) that weavers' wages did not alter between 1889 and 1891.

The proportion of employées is about 1 spinner and 1 card-room hand to 3 weavers. Taking these as weights in combining the three lines, we have:—

	1860.	1865.	1870.	1877.	1879-80.	1883.	1889.	1891.
Workers in cotton factories	100	*127*	125 ± 3	148 ± 5	134 ± 8	*146* ± 8	173 ± 6	176 ± 6

The 5 per cent. possible error in the figures for weaving introduces a 3 per cent. error, which is allowed for in this result, since weavers are three-fifths of workers.

Considering the times of changes in list prices, and of the inflation and depression of the cotton trade, it will be seen that the following numbers with wide limits of error are probably within the mark:—

	1866.	1874.	1886.	
	125 ±10	148 ±10	155 ± 8	

III.—*Wool.*

The "Returns of Wages" are fuller than usual in this case, except that they do not show the change from men to women or from hand to power-weaving sufficiently clearly.

I have separated the wages for weaving, and calculated the changes in other branches together; and the results up to 1883 rest on good evidence. For Huddersfield I obtained from a leading trades unionist an estimate for 1893 based on the returns for 1883, so that the two are comparable; a reduction of 8 per cent. is thus shown from 1880 to 1893. I also got estimates for Leeds, Dewsbury, and Batley for 1893, but not by actual comparison with previous returns, so that according to my rule I cannot use them. They showed something like 20 per cent. reduction since 1880, and since in the main my informants agreed with the Returns of Wage figures, there must be some strong foundation for the belief in this remarkable decrease. To be on the safe side, and avoid exaggeration, I have taken the Huddersfield reduction (8 per cent.) to be the average, and so obtain the low figure 112 for 1893.

Hand-weaving has been regularly diminishing during our period; I cannot find, however, the exact proportion, and, since hand-weavers' wages have not differed greatly from power-weavers' (men's) wages, I have neglected them entirely.

Women have been replacing men at the looms during the last ten years, especially at Huddersfield. There I was told that 60 per cent. of weavers were men in 1883, but only 40 per cent. in 1893. But in 1886[28] only 42 per cent. were men; so that the change appears to have been exaggerated, unless it took place between 1883 and 1886. Hearing the same complaint on all sides, I conclude that there is at any rate some cause for it, and have adopted the following figures for Huddersfield, as probably having a result near the mark :—

---

[28] "Return of Wages in Principal Textile Trades." [C–5807.]

Huddersfield.

	1883.		1893.	
	Numbers.	Wages.	Numbers.	Wages.
	Per cnt.	*s.* *d.*	Per cnt.	*s.* *d.*
Power-loom weavers, men	55	23 6	45	21 -
,, ,, women....	45	17 -	55	14 -

Diminution of average wages for men and women together 16½ per cent.

The information I received from Batley, Dewsbury, and Leeds indicated a much greater fall, viz., 30 per cent. For the same reasons as before, I adopt the Huddersfield figure as typical.

TABLE X.—WOOL. *Changes of Wages in Wool Trade.*

[From "Returns of Wages," C–5172.]

	Weights from Numbers Employed.	1860.	'66.	'67-68.	'71.	'74.	'77.	'80.	'83.
All Branches, except Weaving.									
Batley	4	—	100	–	—	115	115	126	—
Dewsbury	4	—	100	104	107	117	117	112	112
Huddersfield	12	100	100	—	—	114	125	125	115
Leeds..	3	100	—	—	—	—	—	119	119
Weighted average (i)	—	100	100	*104*	*107*	115	121	122	*115*
Power Loom Weavers only.		*							
Batley and Dewsbury	4	—	114	114	123	125	136	131	—
Huddersfield	5	100	114	—	—	*133*† men	*152*† only	140	137
Leeds..	2	100	—	—	—	—	—	116	118
Weighted average (ii)	—	100	114	*114*	*123*	*125*	*142*	132	*132*
Weighted average of (i) and (ii)— Weights (i) = 9, (ii) = 7	—	100	106	*108*	*114*	121	130	126	*122*

* *Vide* text, p. 261. † Half-weights.

I should observe that the figures I have used allow for the change in the character of spinning, which has been of this nature:—

Huddersfield.

1871 and earlier.	*s.*	*d.*	
1 spinner	28	–	each
2 piecers	8	6	„
Average per person	15	–	

1893.	*s.*	*d.*	
1 spinner	34	–	each
1 minder	17	–	„
4 piecers	8	6	„
Average per person	14	2	

I have used the numbers given in the "Returns of Wages in "Principal Textile Trades in 1886" for finding the weights for compounding the averages.

It is unfortunately necessary to approximate for three years to obtain comparable results. I have taken $\overset{1870}{107\text{—}117}$ $\overset{1886}{105\text{—}125}$ and 1891, the same as 1893, 100—130. We have therefore the following figures:—

	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Wages in wool trade	100	106	112 ± 5	121	130	126	120 ± 5	115 ± 10	115 ± 15

IV.—*Jute and Flax.*

(a.) *Jute.*

[From "Returns of Wages," p. 80 *et seq.*]

	1860.	1861.	1863.	1866.	'67-68.	1869.	1871.	1874.	1877.	1880.	1883.	1886.	1893.
Dundee ...	100	108	111	133	124	112	119	140	127	120	142	*120**	*140**

* Evidence before Labour Commission, Group C, vol. i, Précis, pp. 32 and 33.

This is corroborated by an incomplete table (including only preparers, spinners, and rulers) given by Mr. Henderson ("Factory "Inspector's Report for 1883," p. 42), which indicates numbers as follows:—

	1800.	1870.	1875.	1883.
Dundee........	100	120	160	150

(b.) *Flax.*

[From "Returns of Wages," p. 80 *et seq.*] A.

	Spinning and Warehouse, &c., Weights.*	1860.	1863.	1866.	'67-68.	1871.	1874.	1877.	1880.	1883.
Leeds	3½	100	—	—	—	—	—	—	138	130
Dundee	19	—	—	114	—	115	131	140	125	135
Belfast.........	17	100	—	114	117	110	130	130	—	132
Average		100	—	*114*	*117*	113	131	133	*127*	133

* Proportionate numbers employed in England, Scotland, and Ireland.

With this compare Mr. Henderson's figures for Dundee (Id., p. 44), viz.:—

	1860.	1870.	1875.	1883.
Dundee (spinning, &c.)	100	113	139	135

The similarity is so exact that we may regard the number 114 for 1866 as no longer doubtful.

B.

	Winding and Weaving only.	1860.	1866.	'67-68.	1871.	1874.	1877.	1880.	1883.
Leeds............	3½	100	—	—	—	—	—	117	*125*
Belfast..........	19	100*	118*	*123*	130	127	147	—	147
Dundee........	17	100	113	125	125	125	125	118	118
Average..............		100	116	124	128	126	137	*118*	133

* This increment rests on feeble evidence.

Mr. Henderson shows an increase of 6 per cent. between 1870 and 1880 for Dundee, which emphasises the depression in Scotland at the latter date.

These figures are not altogether satisfactory, but the winders and weavers only represent 27 per cent. of the trade. Giving them this importance, and combining A and B, we obtain:—

	1860.	1866.	'67-68.	1871.	1874.	1877.	1883.
Flax spinning and weaving	100	114	119	117	129	133	133

TABLE XI.—GAS. *Change of Wages in Gas Works.*

	Years.... Weights.	1858.	'60.	'61.	'62.	'66.	'67.	'68.	'71.	'72.	'74.	'77.	'80.	'83.	'87.	'88.	'91.
From "Returns of Wages"—pp. 311–374																	
Liverpool	50	100	100	100	100	—	—	—	—	—	—	—	130	—	—	—	—
Belfast	13	—	100	—	—	—	—	—	103	—	139	—	—	—	—	—	—
Newcastle	9	—	100	—	—	—	115	115	118	—	—	—	—	—	—	—	—
Edinburgh	38	—	—	—	—	108	—	—	—	—	—	—	128*	132	—	—	—
Glasgow	58	—	—	—	—	113	—	—	—	—	—	—	128	129	—	—	—
Dublin	20	—	—	—	—	—	—	—	—	—	—	128	128	128	—	—	—
London	400	—	—	—	—	—	—	—	—	—	—	127	128	128	—	—	—
Bristol	20	—	—	—	—	—	—	—	—	—	—	144	128	140	—	—	—
Birmingham	44	—	—	—	—	—	—	—	—	—	—	—	128	128	—	—	—
Manchester	50																
Retort men	—	—	100	—	—	—	—	—	—	—	—	130	—	—	—	—	—
Other workmen	—	—	—	—	—	—	—	—	—	—	—	130	134	—	—	—	—
From Labour Commission—																	
South London (Mr. Livesey)	—	—	100	—	—	*117*	—	—	—	125	—	—	*125*	—	—	131	—
Incorporated Gas Institute (110 works; 12,510 workmen)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	130	—	119
Beckton (Mr. James)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	130	—	*130*
Darwen (Mr. Buxbury)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	130	—	*145*
Weighted average	—	—	100	—	—	115	—	—	—	125	—	128	128	130	—	131	149

* *Vide* text.

V.—*Gas.*

The table sufficiently explains the nature of the evidence.

Of the three lines connecting 1860 and 1880, that for Liverpool depends on the best evidence, and has therefore received a little additional weight in the average, 128 being taken as the number for 1880; 128 and 130 are then found for 1877 and 1883 respectively. 115 for 1866-67 is near all the numbers for those years.

Mr. Livesey's complete figures connect 1860 and 1888, and the number 131 for the latter year does not clash with any former numbers. The very complete figures of the Incorporated Gas Institute[29] show a rise of 19 in 130 between 1887 and 1891. It will be seen that the results, though resting individually on incomplete evidence, agree so well with all the figures in the table (the exceptions being due to figures for the smaller towns or to doubtful information), that we use them without fear of much error.

It was hardly necessary to find intermediate figures for gas, because the numbers employed are comparatively few, and cannot perceptibly influence the general result. I have, however, taken 1870 and 1874 as 115—125 and 115—135 respectively.

Hence we have—

	1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
Wages in gasworks........	100	115	120 ±5	125 ±10	128	128	130	130	149

VI.—*Seamen.*

The "Merchant Shipping Returns," Board of Trade, May, 1892, give monthly wages of A.B. seamen for 1870, 1875, 1880, and 1883-91 on sailing and steam ships, and for 1860 on sailing ships.

In "Returns of Wages" figures are given for every year from 1860-86 in certain ports.

The latter are worked out in Table XII (1); the former in Table XII (2); the numbers are weighted by the tonnage cleared at each port, in default of better information.

In all its main features, and in most of its details, Table (2) agrees with Table (1) where numbers are given for the same year. Taking the latter to be correct, figures have been interpolated from Table (1), being altered by 1, 2, or 3 per cent. where they differed, attention being paid always to the changes year by year, not to the actual figure. In Table (2) all figures for steamers are worked on the basis 1870 = 116, for wages in steamers were 16 per cent. higher than those in sailing ships in that year. From 1860 to 1870 it appears that this difference of 16 per cent. always existed, and figures have been entered on this assumption.

[29] Labour Commission. Group C. 31st day, Mr. Valon's evidence.

To combine these two lists it is necessary to know what proportion of men were employed respectively in the two services. The data are as follows:—Total number employed in the different services are given in "Merchant Shipping Returns" for many years, and can easily be interpolated (without giving the possibility of an error of 1 per cent. in last lines of the table), for intervening years. In 1891 the proportion of A.B.'s to total crew of a steamer was one half of same proportion for a sailing ship; it has been assumed that this was the case throughout.

Figures for 1891 *worked out as an Example of Method.*

Total number employed in sailing ships: 70,000.
,, steam ,, 159,000.

Hence proportion of A.B.'s employed in sailing ships to those in steam ships

$$\text{is } 70 : \frac{159}{2} = 140 : 159 = 47 : 53.$$

Hence about 47 per cent. of A.B.'s were employed in sailing ships, and about 53 per cent. were employed in steam ships.

These and similar numbers for other years are entered in the last lines of the table. Percentage wages for 1891, from previous lines in table,

(1870 = 100 for sailing
,, = 116 ,, steam)

are sailing—126.
steam—156.

$$\text{Hence percentage wage for the two combined} = \frac{126 \times 47 + 156 \times 53}{100} = 143.$$

143 is therefore entered in the last line in the '91 column.

Numbers for all the other years have been worked out on the same plan. The table is so compiled that the 1860 number comes out as 100.

The minutes of the Labour Commission include a good deal of discursive evidence on seamen's wages. Mr. Heron Wilson's and Messrs. Park's and Comach's evidence tally exactly with the figures in Table XII (2).

Mr. Havelock Wilson's evidence indicates low wages in 1887, a partial rise from 1879, a drop in 1882, and a rise commencing in 1887, which brought wages in 1892 to a point 30 per cent. higher than those of 1882, all of which will be found in the table. He gives figures from Parliamentary Reports which reduce to

1860.	1870.	1875.
100	110	133

which he says exaggerates the rise before 1875; but the figures in Table (2) show a rise of only 28 per cent. between 1860 and 1875 for sailing vessels, and of only 16 per cent. between 1870 and 1875 for steamships; the result obtained is therefore not contrary to Mr. Wilson's evidence.

I have not been able to obtain sufficient figures to trace the change in wages of engineers or stokers.

TABLE XII (1).—*A.B. Seamen.* (*From "Returns of Wages," pp.* 422—437.) 1870 = 100.

	Years.	'60.	'61.	'62.	'63	'64.	'65.	'66.	'67.	'68.	'69.	'70.	'71.	'72.	'73.	'74.	'75.	'76.	'77.	'78.	'79.	'80.	'81.	'82.	'83.	'84.	'85.	'86.
Sailing.	Weights.																											
London	7	100	100	100	97	101	100	108	102	100	100	100	100	116	129	128	127	127	127	119	99	97	116	116	114	114	105	100
Bristol..........	1	—	—	—	—	—	—	—	—	107	102	100	100	120	137	133	135	130	121	112	99	97	111	120	115	117	117	107
Glasgow	2	—	—	—	—	—	—	—	—	103	97	97	100	119	120	119	119	120	120	96	87	92	99	104	103	96	92	86
Liverpool	6	—	—	—	—	—	—	—	—	—	98	98	100	117	119	121	118	118	105	107	89	95	104	106	105	103	105	103
Newcastle and Shields........	4	—	—	—	—	—	—	—	—	94	89	93	100	105	120	121	117	115	111	104	91	88	97	103	103	103	99	94
Weighted average.........	—	100	100	100	97	101	100	108	102	101	98	98	100	115	123	123	121	121	116	110	93	95	107	110	109	107	104	100
Steam.																												
London	7	100	100	100	97	101	100	108	102	100	100	100	100	107	111	112	108	108	110	106	98	100	107	105	109	107	101	99
Bristol..............................	1	—	—	—	—	—	—	—	—	—	—	—	100	121	121	121	121	121	119	117	110	102	107	111	118	111	103	103
Glasgow	2	—	—	—	—	—	—	—	—	—	—	—	100	113	119	118	114	114	111	89	90	92	99	102	106	105	90	90
Liverpool	6	—	—	—	—	—	—	—	—	—	97	97	100	105	108	110	107	107	107	102	94	92	99	101	99	96	96	98
Newcastle and Shields........	4	—	—	—	—	—	—	—	—	—	—	—	100	100	112	116	106	107	104	100	96	94	101	107	107	97	97	94
Weighted average.........	—	100	100	100	97	101	100	108	102	100	98	98	100	106	112	111	108	108	108	102	96	95	102	103	106	101	98	98

TABLE XII (2)—*Contd.* *A.B. Seamen.* (*From "Merchant Shipping Returns," Board of Trade, May,* 1892.)
1870 = 100, *for Sailing* = 116, *for Steam.*

	Years.	'60.	'61.	'62.	'63.	'64.	'65.	'66.	'67.	'68.	'69.	'70.	'71.	'72.	'73.	'74.	'75.	'76.	'77.	'78.	'79.	'80.	'81.	'82.	'83.	'84.	'85.	'86.	'87.	'88.	'89.	'90.	'91.
Sailing.	Weights.																																
London	7	97	—	—	—	—	—	—	—	—	—	100	—	—	—	—	127	—	—	—	—	97	—	—	114	114	105	100	98	105	111	131	134
Bristol	1	90	—	—	—	—	—	—	—	—	—	100	—	—	—	—	129	—	—	—	—	94	—	—	109	108	107	98	98	103	124	126	126
Glasgow	2	93	—	—	—	—	—	—	—	—	—	100	—	—	—	—	122	—	—	—	—	93	—	—	106	99	95	93	91	95	114	120	120
Liverpool	6	98	—	—	—	—	—	—	—	—	—	100	—	—	—	—	120	—	—	—	—	97	—	—	108	105	108	105	95	108	117	117	119
Newcastle and Shields	4	106	—	—	—	—	—	—	—	—	—	100	—	—	—	—	135	—	—	—	—	94	—	—	110	109	105	100	96	107	119	128	128
Weighted average* (weights as before)	—	98	98	98	97	101	101	110	104	103	100	100	103	121	127	127	126	126	120	113	95	96	108	111	110	108	104	100	96	105	116	126	126
Steam.																																	
London	7	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	133	—	—	—	—	122	—	—	134	132	124	122	124	124	142	154	153
Bristol	1	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	139	—	—	—	—	132	—	—	147	139	130	130	130	139	167	176	176
Glasgow	2	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	131	—	—	—	—	110	—	—	126	125	108	106	106	116	137	150	156
Liverpool	6	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	125	—	—	—	—	105	—	—	118	118	118	120	116	118	139	155	147
Newcastle and Shields	4	—	—	—	—	—	—	—	—	—	—	116	—	—	—	—	139	—	—	—	—	121	—	—	139	127	127	122	123	130	147	161	165
Weighted average*	—	114	114	114	113	117	116	126	120	119	116	116	119	125	134	134	132	132	132	125	117	116	124	126	129	126	122	121	119	123	143	157	156
Weights for combining sailing and steam—																																	
Sailing	—	92	92	91	91	90	89	89	88	88	87	86	84	83	82	80	78	76	75	74	73	72	70	68	66	64	63	58	57	54	52	49	47
Steam	—	8	8	9	9	10	11	11	12	12	13	14	16	17	18	20	22	24	25	26	27	28	30	32	34	36	37	42	43	46	48	51	53
Weighted average (1860 = 100)	—	100	100	101	100	103	104	113	107	106	103	103	107	123	129	129	128	128	123	117	102	102	114	117	118	115	112	110	107	114	130	143	143

* Intermediate numbers interpolated from Table XII (1).

VII.—*Coal.*

It is not possible to give an accurate table showing the exact increase in average annual earnings of miners throughout the kingdom; but from the data available it will be seen that the figures at the end of this section agree with the evidence, and though leaving the numbers doubtful within a large percentage, will not lead us to any serious error in the final result.

In the accompanying table the percentage changes in nominal wages per ton are given *seriatim*, allowance having been made for the number of months in which each wage was current, and the weighted average is taken.

It is hardly needful to say that these sliding-scale changes do not necessarily bear any close relation to actual annual earnings; for even if there were no other disturbing cause the number of days worked would make a vast difference. It would be quite hopeless to try and draw out a schedule of wages from these, if there was no means of comparing the course of these numbers with that of actual weekly wages paid. Fortunately we have an estimate of hewers' earnings from Mr. Young,[30] who represented Northumberland miners, which shows similar fluctuations to those of the sliding scale figures, but with more marked changes.[31] We have also a statement by Sir Lowthian Bell as to the average daily earnings of miners in a particular Durham colliery from 1871-83;[32] the way in which it is given leaves it doubtful whether the average takes into account the number of days on which the colliery was working, and so truly represents annual earnings or no, just as in the case of Northumberland the fluctuations are similar to those of the wages per ton but slightly exaggerated.

In comparing them it must be remembered that the changes have often been so violent in the course of a year, that it is difficult to find which nominal wage was typical of the year.

Wage fluctuations have been very similar throughout England, so that to a great extent we may expect wages in all the districts, not indeed to be equal, but to show nearly the same ratio of change.

From the years 1871-79 the Northumberland Miners' Association only shows the rate per shift, without giving the average number of days worked per week. Sir L. Bell was of opinion that during the period of high prices and wages (1871-74) the miners did less work. If this is so, the numbers based on wages per shift show too great a rise; but Sir L. Bell's statement of average daily wages showed a faster increase than the nominal wages in Durham, or than the figures just mentioned for Northumberland. The total output for the kingdom, however, did not increase nearly as fast as the numbers employed.

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[30] Trades Union Reports: Northumberland Miners' Mutual Confident Association; and Mr. Young's estimate before the Labour Commission; confirmed by Mr. Weeks, of the Northumberland Coal-owners Association.

[31] *Vide* Diagram IV, in Mr. Hooker's paper in December *Journal*.

[32] Commission on Depression, 1886; second report, part 1, p. 341.

From these considerations I am inclined to take this Northumberland rate per shift, which is the lowest increase shown, as showing the average increase, though of course we cannot rely on the numbers within 10 per cent.

Unfortunately I have no figures for Scotland before 1880.

It is more important for our purpose to find to what point wages returned at each decade; and we are on safer ground, because we may expect the number of days worked to be about the same in similar conditions of trade.

There is some evidence to show that wages in 1870 differed by less than 10 per cent. from those of 1860. Mr. Lord gives the same average in 1860 and 1870 for miners' wages throughout Lancashire. The "Commercial History and Review" for 1872 speaks of a rise of 30 per cent. between 1861 and the end of 1871, of which 15 per cent. or 20 per cent. took place in 1871. Dr. Schulze-Gaevernitz states that wages were on the whole stationary in the North in that period. The nominal rate in Staffordshire (though phenomenally high) changes but little in these ten years. The Northumberland Miners' Association gives an increase of 20 per cent. between 1863 and the average wage in 1871, but no details are given by which an exact estimate can be made. We may conclude that wages in 1870 were probably less than 10 per cent. higher than those in 1860; and to avoid showing an unreal increase it will be safer to take them equal with limits of error.

We see that Sir L. Bell and the Miners' Association give the level of 1880 as the same as that of 1871, while the percentage averages give it as 10 per cent. to 15 per cent. below 1870. Both these years being times of changing wages, the discrepancy is not surprising. Mr. Lord shows a rise of 8 per cent. between 1870 and 1883, which (allowing for the rise of 11 per cent. between 1880 and 1883), shows a fall of 3 per cent. between 1870 and 1880. The possibility of a neglected fall in this decade is counterbalanced by the possibility of a neglected rise in the previous one. All this seems to show that wages in 1880 were certainly not more than, and probably not nearly so much as, 20 per cent. higher than 1860 or 10 per cent. higher than 1870; while if we roughly take an average of all the statements we find that wages at the end of each decade were much the same; moreover the only two lines that actually contain 1860 indicate that this is the case.

I think it will be found that the following figures do not show any great deviation from any of the evidence; I have taken 1880 = 100, and underneath each figure I have indicated the limits between which it may be expected that the true number lies:—

Years.	1860	'70	'71	'72	'73	'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91
Changes in wages in coal mines (Scotland not included till 1880)	100	100	120	140	170	150	120	115	115	97	100	100	105	110	115	110	105	100	95	95	120	150	15
	−10	± 5		± 10			± 5						± 5								± 10		

VIII.—*The Iron Trades.*

It is very difficult to get even an approximate figure for any branch of the iron manufactures. Figures given by trades unions, though in many respects very complete, are not adapted for the purpose in hand, and other evidence is incomplete and in some cases contradictory. Further than this, there is no means of telling from the census figures what number of men are employed in puddling, plate and bar rolling, and general engineering, respectively.

Wages in the iron trades may be divided into three classes: those that fluctuate immensely with depressions and inflations of trade, both in the rate paid and the amount of work done, of which puddlers' wages are the typical instance; those which change, indeed, but not so rapidly as far as the nominal rate goes, but owing to piece work and overtime alter far more than appears on the surface, such as the wages of the Amalgamated Engineers; and thirdly, wages which change slowly and but little in nominal amount, but whose total is much influenced by slackness or irregularity of work; of this class the iron moulders afford an example.

1. *Puddling.*

My principle throughout this paper has been to avoid computing wages in years marked by extreme prosperity or depression, and not to allow for changes in the amount of employment, assuming that for a first approximation the proportion of unemployed in an average year has remained unchanged. Applying this principle, we must take puddlers' wages as they are given, but must not lay stress on the numbers obtained for extreme years; we must allow for that amount of overtime which has become normal in the case of engineers; and in the case of moulders must neglect the changes due to want of employment. By this method the figures which we obtain for 1860, 1863, 1866, 1870, 1877, 1883, and 1891, which judging from the returns of the iron moulders were medium years, will fall in well with figures for other trades less influenced by the state of foreign trade; while the figures for 1880 and 1886 (years of depression) and 1874 (of inflation) will be to some extent misleading.

TABLE XIII.—*Coal Mines.*

I. Percentage Changes in Nominal Wages per Ton (1880 = 100).

[Chiefly from "Labour Commission: Final Report," Part II, Diagram, p. 42; and from Mr. Hooker's paper in the "Journal of the Royal Statistical Society," December, 1894.]

	Numbers in District in 1893.	1860.	'61.	'62.	'63.	'64.	'65.	'66.	'67.	'68.	'69.	'70.	'71.	'72.	'73.	'74.	'75.	'76.	'77.	'78.	'79.	'80.	'81.	'82.	'83.	'84.	'85.	'86.	'87.	'88.	'89.	'90.	'91.	
Federation district ...	300,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96*	96*	100	100	105	111	109	106	104	103	106	117	138	—	*(1)*
South Wales	90,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	102	108	111	114	110	104	99	98	112	136	149	*(2)*
Northumberland	32,000	—	—	—	—	—	—	—	—	—	—	—	128	154	187	180	151	137	128	110	100	100	100	101	104	104	102	101	94	90	106	129	135	
Durham County........	92,000	—	—	—	—	—	—	—	—	—	—	—	111	137	171	162	139	127	114	111	103	100	102	106	109	109	106	104	103	103	109	129	149	
Northumberland, Durham, and Cumberland	130,000	*117*†	—	—	—	—	—	—	—	—	—	117†	115	141	175	167	142	130	118	111	102	100	102	105	108	108	105	104	100	99	108	129	145	*(3)*
Scotland.....................	90,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	91	90	103	90	78	72	78	76	95	126	127	*(4)*
Weighted average of lines *(1)*, *(2)*, *(3)*, and *(4)*................	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	104	109	108	102	99	98	99	111	134	142	
Annual Commercial History and Review ("Economist")	—	100	—	—	—	—	—	—	—	—	—	110 to 115	130	—	195	169	163	126	—	101‡	—	—	—	—	—	—	—	—	—	—	—	—	—	

II. Actual Earnings.

Years	'60.	'63.	'70.	'71.	'72.	'73.	'74.	'75.	'76.	'77.	'78.	'79.	'80.	'81.	'82.	'83.	'84.	'85	'86.	'87	'88.	'89.	'90.	'91.
Northumberland—																								
Miners' Mutual Association (wages per shift)	—	83	—	102	140	172	151	122	115	115	97	92	—	—	—	—	—	—	—	—	—	—	—	—
Mr. Young §: annual earnings of hewers	—	—	—	—	—	—	—	—	—	—	—	92	100	100	106	113	105	96	90	—	92	121	150	148
Mr. Weeks §: " "	—	—	—	—	—	—	—	—	—	96	94	98	100	103	107	112	107	98	96	—	94	117	141	—
Trades Unionism: Webb, p. 332 (wages per day)	—	—	—	—	—	197	—	—	—	103	94	—	—	—	—	—	—	—	—	—	—	—	—	—
Durham—																								
Sir L. Bell ("Commission on Depression, 1886: 2nd Report," Part I, p. 341)—																								
Average earnings in a particular colliery { hewers	—	—	—	103	128	189	156	131	133	123	115	102	100	112	120	122	118	—	—	—	—	—	—	—
Average earnings in a particular colliery { all workers ...	—	—	—	—	—	—	—	—	—	—	—	—	—	112	113	118	118	115	—	—	—	—	—	—
Lancashire—																								
Mr. Lord (Manchester Chamber of Commerce: "Commission on Depression, 1886: 1st Report," p. 99)—																								
Colliers (weekly earnings)	107	—	103	—	—	—	—	—	—	120	—	—	—	—	—	111	—	—	—	—	—	—	—	—

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* Staffordshire only, regarded as typical of Federation District for these two years.

† From "Social Peace," p. 171.

‡ Weighted average of (1) and (3).

§ Labour Commission: Group A. *Précis.* Vol. i, p. 16.

I have not been able to get an accurate estimate of puddlers' wages. Putting together all the scattered information contained in the Annual Commercial History and Review ("Economist"), I find that the following figures satisfy the evidence.

Percentage changes of puddlers' wages (piece work):—

1860.	'65.	'66.	'68.	'69.	'70.	'71.	'72.	'73.	'74.	'75.	'77.	'78.	'80.	'83.	'84.	'85.	'86.	'88.	'89.	'91.
100	138	127	116	122	127	135	177	155	143	124	*112*	106	*112*	*110*	106	100	100	106	124	*124*

Now these figures probably represent with fair accuracy the course of wages for short periods; but there is more than one hiatus in the data (especially 1885-88), and the figure for 1889 may quite easily be 10 per cent. wrong. I do not think that the error can be so great in 1885, while from 1860-78 the evidence was fairly complete. In our final table these figures must be marked doubtful.

2. *Foundry, Engineering, and Machinery.*

Taking all the other chief branches of the heavy iron trades (viz., foundry, general engineering, and machine making) together, we will first consider the Trades Union Reports.

The well known figures of the iron founders give both normal weekly wages and a second column showing the average amount earned, allowing for the number out of work. Before 1885 the numbers given were decennial averages. With Mr. Hey's help I have been able to find numbers which cannot be far from the true figures for 1860 and 1870, and indeed to complete the figures for individual years, without great risk of error, for both the columns in the Trades Union Reports. In the accompanying table I have entered the numbers showing the decimal averages as well as the figures to which we approximated. The second line (allowing for unemployed) is not used in the further work for the reasons given, but is left as throwing much light on the effect which the inclusion of fluctuating amount of work would have. In the first line (which is used), I have indicated the figures which may be further in error than the rest of the line.

In the case of the Scotch iron moulders, the steam engine makers, and associated blacksmiths, it is somewhat doubtful whether the figures represent individual years or the average of a short series of years. If the latter is the case, it will have the effect of diminishing the influence of fluctuations on the general result.

The Amalgamated Engineers give a complete schedule of nominal wages and hours of work, with numbers in the Society in

TABLE XIV.—*Changes in Wages in Manufactured Iron Trades, as shown by Trades Union Reports.*

[Doubtful figures in *italics*.] [1860 = 100.]

	Numbers of Members at Recent Dates.	'60.	'61.	'62.	'63	'64.	'65.	'66.	'67.	'68.	'69.	'70.	'71.	'72.	'73	'74	'75.	'76.	'77	'78.	'79.	'80.	'81	'82.	'83.	'84.	'85	'86.	'87.	'88	'89.	'90.	'91.	'92.	'93.
Iron founders—	(000's omitted)	Avge. '55-64... 100						Average 1865-74......... 109										Average 1875-84......... 114																	
(i) Weekly wages...............	12,	100	—	—	*100*	—	—	*109*	—	—	—	*106*	—	—	*117*	*121*	—	—	*115*	—	—	114	—	—	*115*	—	108	107	106	113	118	123	123	121	121
(ii) " deducting out of work percentage	—	100	—	—	100	—	—	102	—	—	—	105	110	114	117	119	120	112	105	100	97	108	111	115	115	110	98	90	98	110	123	128	123	119	119
Iron moulders (Scotland)	5,	100	—	—	—	—	120	*120*	—	—	—	*120*	122	114*	107	111	111	111	111	111	111	107	107	107	107	120	120	107	107	120	121	121	119	—	—
Amalgamated engineers	50,	100	—	100	100	—	—	109	—	—	—	109	—	128	—	128	—	—	128	—	—	124	—	—	133	—	133	133	—	—	—	—	127	—	—
Steam engine makers	5,	100	—	—	—	103	—	*103*	—	108	—	*109*	—	112	116	112	—	—	*112*	—	—	*112*	—	120	*120*	—	122	*122*	—	—	—	128	128	—	—
Associated blacksmiths	2,	100	—	—	100	—	—	109	—	—	—	109	—	—	—	117	—	—	117	—	—	122	—	—	130	—	—	122	—	—	—	135	135	—	—
Weighted average (excluding second line)	—	100	—	—	100	—	—	106	—	—	—	110	—	—	—	*124*	—	—	123	—	—	*120*	—	—	127	—	—	*126*	—	—	—	—	126	—	—

* Decrease owing to shortening of hours of work.

each district in 1862 and 1891.[33] These figures show the same ratio of increase on whatever plan the average is taken, and also the same as the ratio of increase of the arithmetic mean of the maximum and minimum wages given in former reports. The figures given in the table for intermediate years are found by taking the mean of the maximum and minimum wages, and we have thus some evidence that this plan gives a fair result. The figure for 1891, which comes from the fifth report, depends on complete information as far as nominal wages are concerned, but they make no allowance for overtime. It appears that in 1891 overtime was worked in all the towns which contained more than 1,000 members; in 1862 no overtime was worked in London, Hull, or Birmingham, which included half the members in the large towns. So far as overtime compensates for slack time at other seasons it would not enter into our general argument; but there can be no doubt that from this cause wages have increased more rapidly than is shown by the wage-figures in the report, and there is no means of accurately measuring this increase.

We may, however, make some correction in the figures which the reports indicate, viz.:—

1860.	1866.	1870.	1874.	1877.	1880.	1883.	1886.	1891.
100	109	109	117	117	113	121	121	116

Hours of work have decreased from 58 to 54 since 1871. Overtime has increased. Assuming that overtime has increased to such an extent that actual hours worked are unchanged, then, since overtime is paid at the rate of about "time and a third" on the average, hours of work should be reckoned at about 59⅓ at time wages, instead of 54. All the figures since 1871 must therefore be multiplied by the ratio $\frac{59\frac{1}{3}}{54}$, an addition, say, of 10 per cent.:—

1860.	1874.	1877.	1880.	1883.	1886.	1891.
100	128	128	124	133	133	127

Of course this is little better than a guess even for average years, and must be far under the mark in such years of inflation as 1872 and 1873. It will, on the other hand, be a correction on the right side.

The weighted average, then, for the union figures given in the table, will not be an accurate representation of the facts, but within wide limits will be correct; I do not see how we can approximate more nearly without falling into worse errors. Fuller information from the Amalgamated Engineers (which I have applied for in vain), would serve to correct this result.

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[33] "Fifth Report on Trades Unions," p. 120 *et seq.*

Now let us turn to information from other sources. We have various figures from the "Returns of Wages," many of them complete for one town for a short period, but few extending over many years. On the whole the figures do not seem to include overtime; so that they should be compared with the original figures of the Amalgamated Engineers, and may be expected to be nearly 10 per cent. less than the result obtained in the former table. It will be seen that the figures are very indefinite in the English towns, showing on the whole no great rise; and agreeing to some extent to a rise between 1880 and 1883. In Scotland a more uniform and rapid rise is shown, confirming the impression which is obtained from the trades union figures, that Scotch wages overtook English in the early part of our period.

2. *Foundry and Engineering, and Manufacture of Machinery.*

"Returns of Wages" give the following result:—

TABLE XV.—*Foundry and Engineering* (p. 161 *et seq.*).

	1856	'57.	'58.	'59.	'60.	'62.	'63.	'66.	'67.	'71.	'74.	'80.	'83.	'94.
Liverpool	*97*	—	*96*	—	100	*100*	—	—	—	—	—	—	—	—
Blackburn	100	—	100	—	100	100	100	—	—	—	—	—	—	—
Leeds........	—	—	—	—	100	—	—	—	—	*97*	—	*102*	—	*112**
Sheffield	—	—	—	—	—	—	—	—	*107*	*104*	—	*102*	*110*	—
Hull	—	—	—	—	—	—	100	*101*	—	—	—	—	—	—
Nottingham	—	—	—	—	—	—	—	—	—	—	—	102	103	—
Newcastle	—	—	—	—	*110*	—	—	—	104	108	—	—	—	—
Dundee	—	—	95	—	100	—	—	—	—	*116*	*129*	—	—	—
Glasgow ...	—	—	—	99	100	—	104	104	—	—	—	*118*	—	—
Belfast	*91*	*94*	—	—	100	—	—	—	—	—	—	—	—	—

* Estimate on same basis given privately.

Machinery (p. 181 *et seq.*).

	1856.	1857.	1858.	1859.	1860.	1861.	1863.	1877.	1880.	1883.
Blackburn	100	100	100	100	100	100	*92*	—	—	—
Glasgow	106	102	100	—	—	—	100	—	125	*133*
Dundee	—	—	—	—	—	—	—	129	125	137
Manchester....	—	—	—	—	100	—	—	*106*	*98*	*110*
Huddersfield	—	—	—	100	100	100	—	—	—	—
Greenock	—	—	—	—	—	—	—	—	125	134

Lancashire (Mechanical Engineering); Mr. Lord (Commission on Depression, loc. cit.).

1860.	1870.	1877.	1893.
100	102	113	110

Mr. Müller (Commercial History and Review, p. 4, "*Economist,*" 1872).

	1861.	1871.
Moulders	100	117
Engine fitters.....................	100	112

On the whole the result of these figures is mere chaos, and they are only inserted to show the great difficulty in dealing with wages in these trades. The trades union figures, though far from satisfactory, are more complete than these. There is no doubt that the Iron Founders' and Amalgamated Engineers' figures represent actual facts, however difficult it is to use them for the purpose in hand, and to however small a percentage of the iron trades they apply. I have therefore entered the figures from the trades union Table (XIV) in Table III, with wide limits of error.

In compiling Table III, I have taken that half those enumerated in the Census under "Other Workers in Iron and Steel" have wages changing as puddlers' wages, and the remaining half, together with machine and tool makers (excluding cutlers), with general engineering.

DISCUSSION *on* MR. BOWLEY'S PAPER.

SIR EDWARD H. CARBUTT said that the paper proved that we were a manufacturing nation, and that our present policy of not taxing our imports was correct. No doubt this policy pressed hard upon those who lived by agriculture, but cheap foreign food enabled the labouring classes to get over times of difficulty. We could not grow anything like the quantity of agricultural produce that we required, and in order to compete with other nations it was necessary that our workmen should live as cheaply as possible. It was quite clear from the paper that our workmen were living in increased comfort. He would have liked to have seen the figures brought down to the present year, for there had been great changes, increase in wages and reduction in hours of labour, since 1891, so that the workman was better off. He congratulated the author on his paper, which was a very valuable contribution to the question of the well being of our working population.

Professor **ALFRED MARSHALL** said that, as noted by the author, the first outlines of the paper had been contained in an essay sent in for the Adam Smith prize at Cambridge, and that he, as one of the examiners, had been struck by the brilliancy of the plan by which Mr. Bowley proposed to extract some information from the great mass of wage statistics which had hitherto been almost useless because of its fragmentary character. Each particular figure in the official returns of wages was probably of value to anyone who had special knowledge of the circumstances under which it was obtained, but without such special knowledge one could not take a figure from one estimate and compare it with one from another. Two years, between which there had been a rise of wages of 20 per cent. might be compared; yet if for the earlier year an employer's estimate were taken, and a workman's for the latter, the result might well show a fall of 20 per cent., and *vice versâ*. It was true that most of the figures in the great returns of wages by the Board of Trade had been obtained from similar sources, and so would be more or less comparable. But, to quote an instance of extreme bias, statements were made before the Labour Commission that the average wage of dock labourers was under 10*s.* per week; yet some of them afterwards struck because they were not content with the 13*s.* per day which they earned when working with certain new machines. But the original statement was true when properly understood. A person much impressed by the sufferings of the poorer working men naturally put aside explanatory causes; he would urge that such a man only made 3*s.* during a week at the docks; and, if it were pointed out that he might be getting other work during the time, the reply would be that one could not be sure of that, and that one had to deal with what figures there were.

The central idea of the paper was, he believed, new, and originated exclusively with Mr. Bowley himself, who thought that the number of fragments of wage statistics was so great, that if they were pieced together, and the method of ratios strictly adhered to, a true result would be obtained, even though any one particular ratio might, when examined individually, prove to a considerable extent erroneous, since the figures were derived from so many sources that it was very improbable that any one bias would predominate largely over others. Thus Mr. Bowley had been able to do what could not have been done by any other method. Leone Levi's two estimates were valuable above all because they had been made by one individual; but there was no other set of figures which could be compared without danger of introducing errors of perhaps 20 or 30 per cent. By Mr. Bowley's method this error had been reduced to about 5 per cent. as regards the special inquiry, the precise limits of which had been so carefully defined, and he considered that the paper would remain as the foundation of a systematic history of wages in general, subject to those limitations.

It was most interesting to compare, as had been done in the paper, the rate of growth of wages and the rate of growth of national income; but it was a little difficult to know how to use these figures in discussions of justice as between different classes. If those who accumulated capital had accumulated only half as much as they actually had, the result would have been that capital, being scarce, would have commanded a higher rate of interest; and that, of the total of one man's work for a year aided by capital equal to (say) three years of his work, a larger share would have gone to the capitalist and a smaller to the workman, who under the circumstances would have been worse off than now. But the supply of capital being smaller, although the rate of interest and the percentage for each 100*l.* of capital would have been larger, yet the aggregate of the income accruing from capital would have been lower. Mr. Bowley's figures showed the increase of wages to have been a little less, proportionally, than the increase of income in general. But if only half the amount of capital had been saved, the result would have been that the increase of wages would have probably been smaller than it actually had been, and yet would have been greater and not less than the increase of other incomes. For, just because the accumulating classes had saved less capital, and had deserved less well of society, they would have been able to make a higher charge to labour for the use of a given amount of capital; thus leaving as the share of labour a less part of the joint products of a year's labour, and capital equal to the result of (say) three years' labour. But in this question the idea of justice was not so important as the idea of what was possible. He himself desired to see wages increase at the expense of the incomes of well-to-do classes as fast as possible without causing the latter to strike permanently; he could put up with their striking for a little while. So long as capital was not driven out of the country, his sense of justice would go all the way with Mr. Bowley; he would rejoice to see wages rise, even at two or three times the rate of increase of the average income.

Mr. **David Chadwick** said that, at the request of Mr. Newmarch, he had in 1860 read a paper, which was printed in the *Journal* of the Society, on this subject, and which had received the approval of the Board of Trade, and the thanks of the Manchester Chamber of Commerce, and had been taken as the model on which that Board had collected information from its foreign consuls. In that paper he had given a carefully epitomised result of the actual wages in the manufacturing district of Lancashire from 1839-59. He did not approve of the plan of Mr. Bowley's paper, on account of its want of actual investigation into the average wages paid, nor did he agree with the comparison indicated as shown by Mr. Sauerbeck's statements, in preference to the actual average retail prices paid by a workman. Everything depended on what benefit the workman enjoyed in the average retail value of the food and clothing in which his wages were spent. Between 1839 and 1859 he had shown in his paper, from a great number of returns and most laborious investigations, what were the actual wages paid in the Lancashire district, which for cotton and iron really meant England generally. Mr. Bowley's paper covered a great deal too much ground, as he had not confined himself, as he proposed, to one main class: it would have been much more valuable if he had given from actual research the wages paid, and the time worked in each trade. Simple and concise figures were wanted, and an average deduced from a large number of cases, to show the working man the time worked in each trade, what he could now earn, and what he could now buy with such earnings. That was the principle he had himself followed in all his statistical investigations, and he hoped that Mr. Bowley in any further paper would be able to follow the lines he had indicated in his paper of 1860.

Mr. **Augustus Sauerbeck** thought that the paper indicated the true lines on which such an inquiry should be conducted. It was generally known that wages had risen considerably from 1850-73, and he thought that the period 1872-77, which represented the height of prosperity, might be taken as a basis for comparison. According to the paper, there had been a fall from 1874 till about 1886, and a rise again till 1891, the latter principally due to changes in the cotton and mining industries, and in the wages of seamen, which might have been accidental. There could be no doubt that the condition of the working classes had greatly improved owing to the greater purchasing power of money, but whether that increased purchasing power was exactly in accordance with his table of the wholesale prices of commodities he was not prepared to say: though those tables showed that there had been a considerable rise in the purchasing power of money. As a result of this improvement, many women were probably not obliged to earn wages now, and children also went to work much later, while in many countries the work of women and children had been restricted by legislation. The result of this would probably be that with the same nominal weekly wages the total amount paid in wages would not increase in the same proportion as the population. A simple comparison of wages was very useful, but it did not tell everything: strikes, amongst other things, might affect them by maintaining the wages of a certain number of workmen, while others would receive considerably less, and the total amount paid for wages might then not be the same as before, and there were no statistics to be had on this point.

Mr. JOHN GLOVER said that he agreed with Mr. Sauerbeck in his praise of the paper rather than with the criticisms of Mr. Chadwick. However the figures were put it was quite undeniable that an enormous improvement had taken place in the wages of the people during the last thirty years, and the mere question whether the figure should be 5 per cent. more or less seemed almost immaterial. But what struck him as a matter for grave consideration was, that simultaneously with this enormous improvement in wages, there had been a continuous decline in the price of nearly everything the workman bought. The old economists would have said that, other things being equal, a fall in the price of commodities, or an increase in the purchasing power of money, must have led to a fall in wages. The purchasing power of wages had however enormously increased, and a mere comparison between the rate of wages was far from measuring the real improvement in the workman's condition. He agreed with Professor Marshall that wages had nothing to do with justice, any more than the price of wheat had. It was entirely a question of supply and demand; the price of labour, like everything else, must submit to that law. Yet they were confronted with the demands of people claiming a living wage, as if either the State or someone else were bound to provide them with employment which would yield an ideal state of living, irrespective of whether a profit to the employer could be made out of labour at the ideal rate. He hoped that papers like the present would tend to lessen the prevalence of such notions. He would be glad if trade unions could be brought to see that the master and capitalist had equally to submit to the law of supply and demand; it was owing to this law that the possessor of silver who formerly got 60*d.* per oz. could now only get 28*d.* for it, and that the possessor of gold, instead of getting 3 or 4 per cent. per annum interest, was only getting 1 or 2 per cent. In respect to this law—from the operation of which there was no escape—the servant could not expect to be better off than the master.

Mr. HENRY HIGGS congratulated Mr. Bowley on his method, but was not quite convinced of his conclusion. He asked whether Mr. Bowley had considered the influence of industrial legislation on wages since 1860. In the thirty-one years there had been a considerable movement from what the Germans called "natural economy" to "money economy," and the figures for 1860 might include various perquisites and allowances paid in kind, which had gradually died out with the Truck Acts and the development of industry. The legal recognition and increased power of trade unions had been followed by a great restriction of overtime, and thus the figures for 1891 represented more nearly the actual receipts than those for 1860. The Coal Mines Regulation Acts, the Factory Acts, the Elementary Education Acts, &c., by restricting the employment of women and children or raising the age at which they commenced work, made the "average worker" approximate more nearly to the adult male now than in 1860. If the author had considered and allowed for such matters, the value of his figures was enhanced; but if not, the conclusions appeared to him too optimistic, because these were causes of error which did not tend to counteract each other. An increase of 40 per cent., moreover, in money wages in thirty-one years, was neither very rapid nor very great in an advancing community. It represented only an annual rise of about 3*d.* per week on a weekly wage of 1*l.*; and he doubted whether workmen would be at all satisfied with the prospect of so slow and so small an improvement in their scales of pay. The purchasing power of wages was a different matter, and he was not sure that a proper fraction had been used in making this reduction. The index number employed was not based on a workman's budget. Everyone would agree with Professor Marshall that the more real wages rose, the happier it would be for the community in which the wage-earning classes were the great majority, but Mr. Bowley's concluding sentence—that every effort to prevent a return to the old rate of wages deserved our sympathy—required qualification. The sentence must not be taken to mean money wages; for those who doggedly attached themselves to a definite money wage, while the purchasing power of money varied so greatly, might be grasping more than they could possibly hold, and in the result might get nothing. With every sympathy for an increasing rise in real wages, he wished to enter a warning against such dislocation and injury to the working classes themselves as might ensue from obstinate adherence to an irreducible money wage if the great fall in prices continued.

Mr. A. E. **Bateman** desired to thank Mr. Bowley for the good use he had made of the materials, most of which had been furnished from the Board of Trade workshop. The paper could not have been written by anyone in that department, as it necessarily involved a considerable amount of estimate and assumption. It therefore represented just the kind of work that had to be done, and in this case had been done well, by one who was not at present connected with the Government service. The only point in which he could agree with Mr. Chadwick was in wishing for a little more detail concerning each trade. There was one branch which had not been alluded to, viz., domestic service, although it was a very important one, seeing that 1,900,000 persons, chiefly females, were employed in it at the last census. He believed that there had been great changes in the wages of domestic servants, but very little had as yet been done in tabulating those changes. Last year some returns obtained from London and Manchester were published in the "Labour Gazette," showing the present average wages in those two towns to be about 18*l.* 10*s.* and 17*l.* 10*s.* respectively. If these figures could be carried back they would be very useful. He had in his hand a wages-book of a middle class family, which extended back over a period of seventy-five years. Besides giving the names, dates of coming and going of all the servants, and their wages, the earliest pages of this book make short but caustic remarks on the qualities of each servant when he or she left. Many of these conflict with the general idea that formerly all servants were good, or at any rate much better than they are now. As a rule, when this book was begun, in 1820, the cook got 13*l.* a year, and the housemaid less than 10*l.*, while a man servant (of whom there were then far more, relatively, than now) received 15*l.* Such books must have been kept in many families, and by applying Mr. Bowley's method to a sufficiently large number of them, some data might be obtained showing the comparative rise of wages, which he believed would prove to be about 40 per cent. since 1860, and probably considerably more since 1820.

Mr. A. L. BOWLEY, in reply, said that he had hoped that the method adopted would have been rather more criticised, if only to show that the corrections would be equal on both sides. He could only hope that it would be criticised in some other way, so that by using the same method the individual figures might be corrected, and the results based on the wider experience thus obtained. If other statisticians besides Mr. Chadwick had undertaken estimates of wages from 1839 to 1859 in all the different counties, he would have been able to go back to 1840; but the information prior to 1860 was much too fragmentary to give any reliable result. He had taken into consideration several of the points raised by Mr. Higgs. As regarded the limitation of employment by industrial legislation, he had, to a certain extent, overcome the difficulty of the gradual change in thirty years, by taking short periods of three or five years at a time in particular cases, by which means altering conditions could be watched and allowed for better than by long-interval comparisons. He had not been able to allow for the alleged decrease of overtime; the only data available were those given in the trades union report relating to the Amalgamated Engineers, and in their case he had found overtime to be much more common in 1890 than in 1860; but in that employment the hours of labour had been reduced from 59 to 54 per week. He had allowed for the employment of women and children to some degree in Table V, because the textile trades, which had great weight in that table, employed the largest proportion of these, and the error was partly dealt with in this way. In taking two series of wages, he had generally taken the wages for either men or women; he had not usually included the wages of women and children with those of men, and that did leave an error to be accounted for. He certainly felt that every effort to prevent a return to former wages deserved sympathy; he did not mean that every effort would be rightly directed, or that it would not be better for people in any particular trade, in many instances, to seek some other; but the fear that wages were about to be reduced certainly deserved sympathy.

The CHAIRMAN (Mr. F. HENDRIKS), in proposing a vote of thanks to Mr. Bowley, said that the paper was one of the most novel, interesting, and valuable which the Society had had for a long time. No doubt the line of argument adopted by Mr. Bowley would attract criticism, both here and abroad; but it would be admitted that the author had thrown great light on the question of wages, and, moreover, he had struck out a method by which an accumulation of statistical observations hitherto lying waste might be utilised. Mr. Bowley had worked on a vast amount of material which had baffled previous inquirers, and to his mind the scientific and theoretical portions of the propositions contained in the paper seemed completely established.

The vote of thanks was then put, and carried unanimously.

The PROGRESS *of* FRIENDLY SOCIETIES *and* OTHER INSTITUTIONS *connected with the* FRIENDLY SOCIETIES REGISTRY OFFICE *during the* TEN YEARS 1884-94.

By E. W. BRABROOK, F.S.S., F.S.A., &c., *Chief Registrar of Friendly Societies, President of the Anthropological Institute.*

[Read before the Royal Statistical Society, 23rd April, 1895.
C. S. LOCH, ESQ., Vice-President, in the Chair.]

THE subject of the present paper is one that must, I think, be in an especial degree a welcome one to this Royal Society of

> "Statists indeed,
> And lovers of their country."[1]

To trace the progress of thrift among the industrial classes, with all that it implies in its bearing on the wellbeing of the whole community, is a task as agreeable as it is important. I have already, on two occasions, the first exactly twenty years ago, the second exactly ten years ago, been honoured with your permission to address you on this question, and I now proceed briefly to lay before you some details of the transactions of various organisations for thrift since the latter of these two dates.

On the present occasion, while I have to call attention to steadily growing prosperity in those societies which are the most typical instances of self-governing methods of thrift among the working classes, I have also to record the grave extent to which the credit and usefulness of a class of societies, that had, in their time, conferred signal benefits on their members, have been broken down by fraud.

The verdict of proverbial and practical philosophy will be, nevertheless, that it is an ill wind that blows nobody good; and the failure of the Liberator and other building societies, while a terrible calamity to many individuals, is not an unmixed evil to the community at large. Just as the frauds on the Rochdale savings bank discovered in 1850, were neutralised by the great prosperity which attended the co-operative enterprises for which Rochdale is famous; so the contraction of building society enterprise which has followed upon the discovery of the malversations

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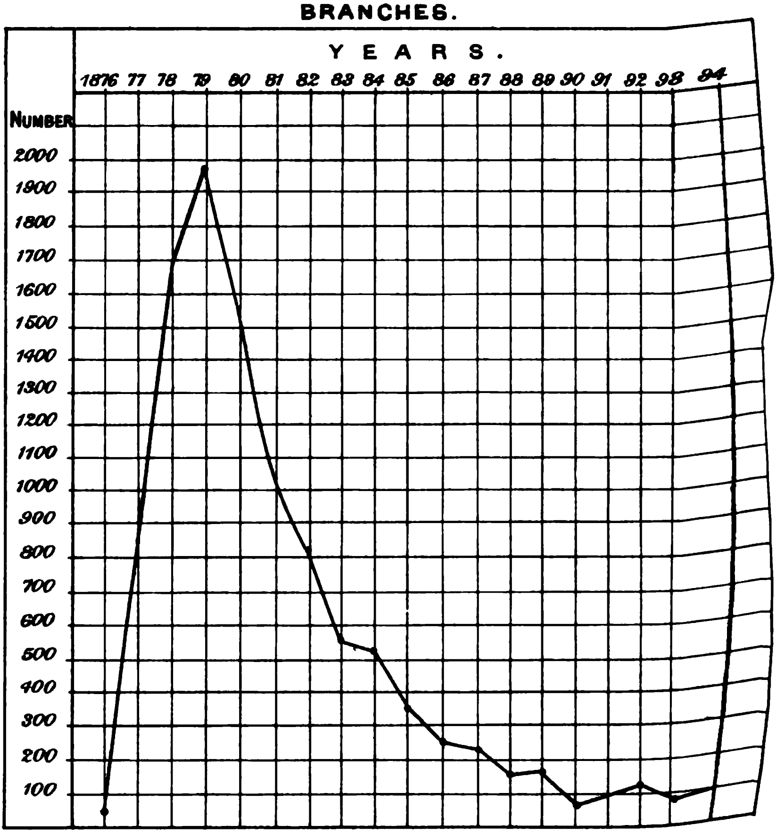
[1] Milton's "Paradise Regained," iv, 354 and 355.

CONVERSIONS OF FRIENDLY SOCIETIES INTO REGISTERED BRANCHES.



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in question, has been neutralised by the increase in other provident investments.

Societies under the Friendly Societies Acts.

These Acts have not been materially altered since 1885. An Act was passed in 1887, embodying some previous alterations and introducing a few others in matters of detail. Others in 1889, 1893, and 1894 were short Acts rendered necessary by unexpected legal decisions or to amend matters of administration. A Bill is about to be introduced having the like purposes; but in all essential particulars the law relating to friendly societies is the same as in 1885.

I therefore bring down Table I of the paper of 1885 to the present time:—

TABLE I.—ENGLAND AND WALES. *Rules and Amendments Registered under the Friendly Societies Acts.*

Years.	Rules.		Amendments.	Total.	Average per Annum.	
	Societies.	Branches.				
1793–1855....	26,034	—	14,864	40,898	660	
1855–75........	21,875	—	25,378	47,258	2,363	
'76–84........	1,734	3,885	20,214	25,833	2,870	
'85	319	807	2,104	3,230	3,230	2,915
'86	278	504	1,999	2,781	2,781	
'87	260	484	2,003	2,747	2,747	
'88	353	555	2,141	3,049	3,049	
'89	259	439	1,999	2,697	2,697	
'90	300	384	1,874	2,558	2,558	
'91	271	499	2,093	2,863	2,863	
'92	242	440	2,183	2,865	2,865	
'93	263	458	2,305	3,026	3,026	
'94	271	465	2,602	3,338	3,338	
Total........	52,459	8,920	81,759	143,138	1,417	

The Act of 1875 for the first time enabled the branches of the affiliated orders to be registered as such, and not as distinct societies, and an amending Act passed in 1876 introduced an easy method by which such lodges, courts, and other bodies connected with affiliated orders as had been registered under the Act of 1855 as separate societies, might be converted into branches. The accompanying diagram shows the number of such conversions which have taken place in each year.

This diagram indicates clearly that the various bodies concerned soon found it to their interest to avail themselves of the method of conversion provided by the Act, and that the great majority of them did so during the first few years after its passing, leaving a small and diminishing number only to come in in later years. The total number of conversions during the nineteen years 1876-94 is 10,653. The total number of acts of registry of societies and branches and of amendments of rules under the Friendly Societies Acts since 1875 is thus brought up to 65,627.

The 8,917 new branches and the 10,653 converted branches make a total of 19,570 bodies registered as branches of affiliated orders.

An important provision of the Act of 1875 was that requiring a quinquennial valuation of assets and liabilities from each society. The number of valuations received has been as follows:—

In the four years		1876-79	1,014
„	five years	'80-84	16,531
„	„	'85-89	13,248
„	„	'90-94	15,631

The results of the valuations will, I believe, be discussed by Mr. Wilkinson, and I do not therefore propose to refer to them in detail. I desire to note, however, as a very satisfactory circumstance, that they have led several of the affiliated orders and many of the isolated societies to make strenuous efforts to rectify their position. I need hardly point out the obstacles and difficulties there are in inducing a body of working men to increase their contributions to the society to which they belong, at a time when that society shows evidence of apparent prosperity, and is increasing its funds, and the prospect that the funds will some day prove insufficient is one in the long distant future; nor the even greater difficulty that is presented when the society is one that is obviously in a bad way, and the sacrifices necessary to restore it to solvency are considerable. I am glad to say, therefore, that many of these societies have met both of these difficulties, have urged their apparently prosperous branches to adopt sound tables of contributions, and have, partly by gentle pressure and partly by judicious assistance, induced those branches which have too long rested on the broken reed of insufficient contributions, to do something towards retrieving their position.

That the Act of 1875 continues to work well is also shown by the circumstance that the amendments which have been recently proposed by the societies themselves in no way affect its principle.

As regards the bodies other than friendly societies proper which are registered under the Friendly Societies Acts, the following particulars may be given:—

Cattle insurance societies registered in 1885-94, 20, as against 10 registered in 1876-84. Number in existence, 60.

Benevolent societies registered in 1885-94, 23, as against 16 registered in 1876-84. Number in existence, 66.

Working men's clubs registered in 1885-94, 504, as against 236 registered in 1876-84. Number in existence, 469. In addition many working men's clubs have been registered under the Industrial and Provident Societies Acts, 1876 and 1893.

Specially authorised societies registered in 1885-94, 317, as against 226 registered in 1876-84. Number in existence, 375.

It will be observed that the Act of 1875 did not come into operation until the 1st January, 1876, and that the period ending 31st December, 1884, as compared with that ending 31st December, 1894, is one of nine years only as against ten years. Allowance being made for this, however, there is a marked increase in the new registries in all the classes of societies referred to.

Another matter of importance is the increase in the number of annual returns received from societies and branches registered under the Friendly Societies Acts. Taking these at intervals of five years, we get:—

Returns received in 1879	12,943
" '84	15,233
" '89	17,984
" '94	22,227

The most convenient authority as to the results of these returns is a paper presented to Parliament in 1891, in which the totals of the latest available return for each society were given as follows:—

TABLE II.—*Societies under the Friendly Societies Acts. England and Wales.*

	Number on Register.	Number of Returns.	Number of Members.	Amount of Funds.
				£
Friendly societies (not collecting) and branches....	26,826	22,313	3,861,519	21,410,563
Collecting societies	39	35	3,318,942	2,289,858
Other societies under the Friendly Societies Acts..	1,022	494	235,510	451,555
	27,887	22,842	7,415,971	24,151,976

Similar returns for Scotland, Ireland, and the United Kingdom give the following results:—

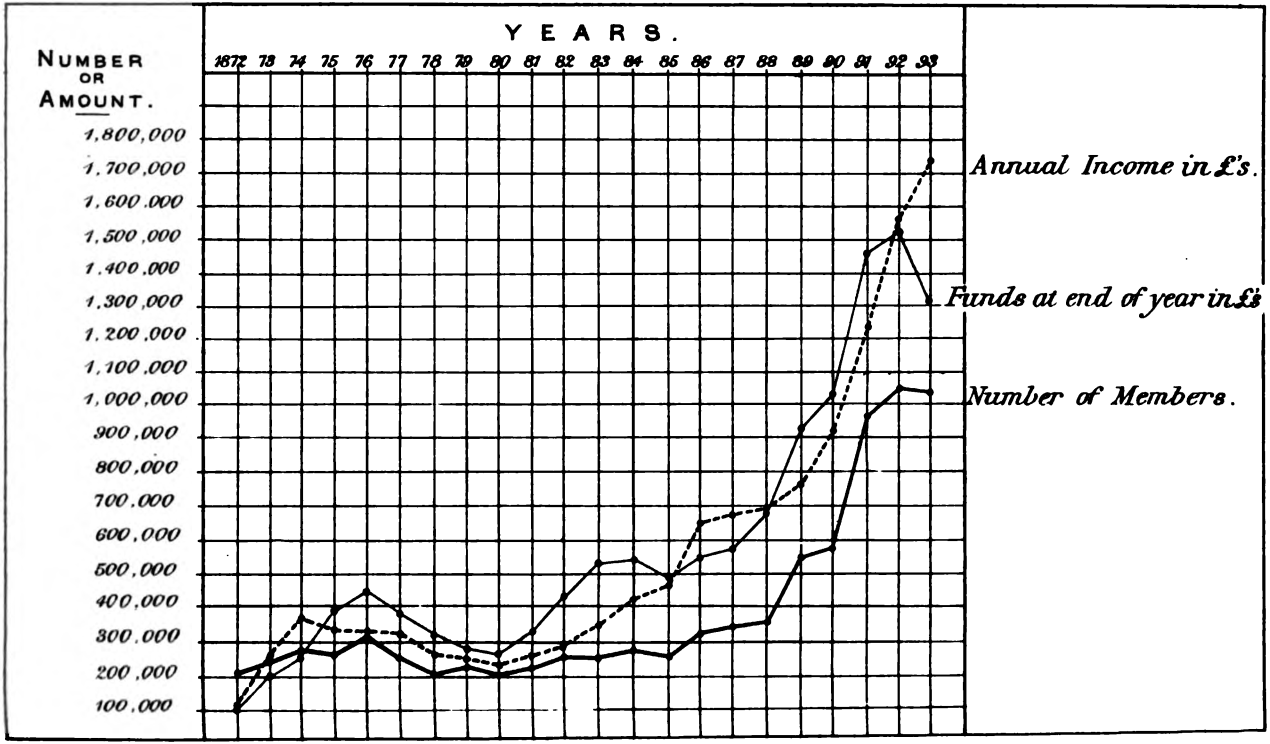
	Number on Register.	Number of Returns.	Number of Members.	Amount of Funds.
	SCOTLAND.			
				£
Friendly societies (not collecting) and branches	1,350	1,325	283,512	1,218,090
Collecting societies	8	8	556,273	423,356
Other societies under the Friendly Societies Acts..	10	10	Not stated	61,220
	1,368	1,343	839,785	1,702,666
	IRELAND.			
Friendly societies and branches	408	360	58,570	66,386
Other societies under the Friendly Societies Acts, principally societies for loans	79	53	5,936	82,033
	487	413	64,506	148,419
	UNITED KINGDOM.			
Friendly societies (not collecting) and branches	28,584	23,998	4,203,601	22,695,039
Collecting societies	47	43	3,875,215	2,713,214
Other societies under the Friendly Societies Acts..	1,111	557	241,446	594,808
	29,742	24,598	8,320,262	26,003,061

This return does not lend itself to comparison with others, as no previous or subsequent return has been made on the same comprehensive principles. The apparent difference between the number of societies on the register, and the number making returns has since its date been considerably reduced by the removal of defunct societies from the register, as the result of inquiries made in various parts of the country, on behalf of the registry office.

The extent to which this has been effected may be indicated by the fact that in a single county, that of Stafford, there are now 88 societies (about 25 per cent. of the whole number on the register) which are under notice of cancelling as having ceased to exist.

In the absence of direct means of comparison, it becomes necessary to make the best estimate of which circumstances will

REGISTERED TRADE UNIONS. ENGLAND AND WALES.



HARRISON & SONS LITH. ST MARTIN'S LANE W.C.

admit. The figures already given represent on the average those of the middle of the decennial period under consideration. Taking the total funds of lodges of the Manchester Unity of Oddfellows, there was in the first five years of the decennium in question an increase of 15 per cent., and in the second five years of 18 per cent. Taking those of the Courts of the Foresters, there was in the first five years an increase of 19 per cent., and in the second five years an increase of 19 per cent. In those of the Ashton Unity of Shepherds, the increase in the ten years was 113 per cent. These figures confirm the statement made above as to the efforts made by the Orders to strengthen their financial position. The increase in funds of the Royal Liver Society, a friendly society of an entirely different class, was 57 per cent. during the ten years. It is not probable that there was so great an increase in some other societies, but as the increase in these societies alone exceeded 4 millions, it will not be unreasonable to estimate the total increase at 5 millions as follows:—

	£
Estimated amount of funds in 1885	23,500,000
" '95	28,500,000

Trade Unions.

The ten years 1884-94 show a remarkable increase in the operations of these bodies. They were first legalised in 1871. The following table shows their condition on the 31st December in the years 1873, 1883 and 1893 respectively:—

TABLE III.—ENGLAND AND WALES.

	1873.*	1883.*	1893.
Number of trade unions on register	130	210	481
Number of trade unions making returns	93	134	464
Number of members................	256,179	249,653	1,034,662
Annual income	253,503*l.*	358,286*l.*	1,733,539*l.*
Funds at end of year................	202,865*l.*	529,587*l.*	1,310,234*l.*
Average income per member....	1*l.* -*s.* 2*d.*	1*l.* 8*s.* 8*d.*	1*l.* 13*s.* 6*d.*
" funds "	15*s.* 10*d.*	2*l.* 2*s.* 5*d.*	1*l.* 5*s.* 4*d.*

* These figures differ from those given in *Journal of the Statistical Society*, vol. xlviii, p. 34, which are those of the returns received in the respective years ending 31st December. The figures in the above tables are those of the returns for the year ending 31st December received in the following year.

These particulars are given for every year since 1871 in the accompanying diagram. It will be observed that the amount of accumulated funds is sometimes a little more and sometimes a little less than one year's income; but that the annual income has increased much more rapidly than the number of members; in other words, the demands of the unions upon their members have risen from 1*l.* to rather more than 1*l.* 10*s.* per member per annum. In the years 1886, 1887 and 1888 they exceeded 2*l.* per member.

It happens, however, that in respect of the amount of funds per member shown by the returns, the year 1883 was an exceptional year, the proportion of 2*l.* 2*s.* 5*d.* being the highest on record. If the average of the five years 1881-85 be taken, the proportion would be 1*l.* 16*s.* 4*d.* Taking the proportions in groups of five years as follows:—

	£	*s.*	*d.*
1874-78	1	7	5
'79-83	1	11	6
'84-88	1	16	8
'89-93	1	10	11

it would seem that there was a tendency to increase until the last quinquennium, during which the large number of new trade unions registered reduced the average. As the diagrams indicate, the returns relating to trade unions fluctuate more than those relating to other registered bodies. For example, the number of members on 31st December, 1893, was 13,556 less than on 31st December, 1892, and the amount of funds diminished in the same time by 237,545*l.* This was due mainly to the great strike of miners: the decrease of funds in three large miners' societies alone amounting to 182,695*l.*

In this connection it is interesting to observe the manner in which the funds of trade unions are invested. The following return shows that a large proportion is so disposed of as to be readily at call when required. For every 1,000*l.* assets of trade unions, on the average

£	
361	is deposited in the Post Office savings bank.
29	in trustee savings banks.
217	,, private and joint stock banks.
66	,, the purchase of land and buildings.
81	on real securities.
13	in government securities.
58	,, corporation stock.
47	,, railway stock.
11	,, co-operative societies and companies.
5	,, building societies.
93	is in the hands of treasurers.
9	,, invested in furniture, regalia, &c.
2	in loans to members and to other societies.
5	,, other ways.
3	covers deficiencies in certain societies.
1,000	

In the following table the returns of trade unions in Scotland and Ireland for the year ending 31st December, 1893, are compared with those for the year ending 31st December, 1883:—

TABLE IV.

	Scotland.		Ireland.	
	1883.	1893.	1883.	1893.
Number of trade unions	14	40	22	62
" returns	11	40	16	38
Number of members	12,940	37,873	3,160	7,930
Annual income	12,394*l.*	47,685*l.*	7,697*l.*	8,973*l.*
Amount of funds	16,891*l.*	56,849*l.*	3,088*l.*	10,924*l.*

For the whole of the United Kingdom—

	1883.	1893.	Increase per Cent.
Number of trade unions	246	583	137
" returns	190	542	185
Number of members	265,753	1,080,465	307
Annual income	378,377*l.*	1,790,197*l.*	373
Amount of funds	549,566*l.*	1,378,007*l.*	151

The increase in funds in the ten years 1883-93 is 828,441*l.* It is to be noted, however, that these figures relate to registered trade unions only, and that some trade unions do not become registered till a considerable time after their original establishment. Since the year 1883, sixty-one trade unions, established before that date, have become registered, and if 219,831*l.* (the amount of their funds at the first return after registry) be deducted for these, the net increase in the ten years will be 608,610*l.*

Building Societies.

The following are the latest statistics relating to incorporated building societies in England and Wales:—

TABLE V.

	Societies under the Act of 1836 which have become Incorporated.	New Societies Established since 2nd November, 1874.	Total.
Total number of existing societies	458	1,758	2,209
Number of returns	451	1,707	2,158
„ members	161,892	205,803	367,695
Receipts during last financial year	11,298,594*l.*	5,115,477*l.*	16,414,071*l.*
Liabilities.	£	£	£
To shareholders	19,661,669	10,049,060	29,710,729
„ creditors	8,646,095	2,499,057	11,145,152
Balance of unappropriated profit	1,370,697	659,841	2,030,538
	29,678,461	13,207,958	42,886,419
Assets.			
Mortgages	27,047,547	11,972,353	39,019,900
Other assets	2,514,380	1,148,991	3,663,371
Balances deficient	116,534	86,614	203,148
	29,678,461	13,207,958	42,886,419

A comparison of these accounts with those of ten years ago, as given in my previous paper, shows the following:—

	1883.	1893.	Increase or Decrease.
	£	£	£
Liabilities to shareholders	31,066,887	29,710,729	− 1,356,158
„ creditors	16,253,437	11,145,152	− 5,108,285
Balance of unappropriated profit	1,705,374	2,030,538	+ 325,164
Total liabilities	49,025,698	42,886,419	− 6,139,279
Mortgages	46,226,169	39,019,900	− 7,206,269
Other assets	2,712,151	3,663,371	+ 951,220
Balance deficient	87,378	203,148	+ 115,770
Total assets	49,025,698	42,886,419	− 6,139,279

This serious diminution is accounted for by many societies having gone into liquidation. This is shown by the fact that although 163 old societies were incorporated during the ten years, the number of returns from old incorporated societies diminished from 464 to 451, and by the further fact that out of 3,351 new societies incorporated in the twenty years from 2nd November, 1874, to 2nd November, 1894, only 1,707 furnish the required return, 98 having been established less than one year, 20 being in default, and 1,526 having ceased to exist. It is not unfair to look upon these figures as evidence of the growth of a considerable number of mushroom societies. Though a certain number of societies have run their course and arrived at the expected termination, those who have done so are few in comparison with the number which have failed.

The 3,351 new societies formed during the twenty years in question are subdivided as follows:—

Societies of the permanent class	583
Starr-Bowkett societies	799
Societies termed "model"	267
" "mutual"	154
" "perfect thrift"	137
" "economic"	89
" "Richmond"	87
" "popular"	50
Other societies of the terminating class	1,185
Total	3,351

Although, however, the greater number of failures is found among the new societies, the heavier burden of failure has fallen upon the older ones. This is indicated by a similar comparison of the last return with the return of ten years ago, to that just given for societies in general:—

	Increase or Decrease, 1883-93. £
Liabilities to shareholders	− 4,299,229
" creditors	− 4,847,126
Profit and loss balance	− 18,371
Total liabilities	− 9,164,726
Mortgages	− 9,741,821
Other assets	+ 577,095
Total assets	− 9,164,726

One single notorious society, the Liberator, itself contributes more than one-third of this diminution, and indirectly by its effect upon the confidence of investors in other societies is responsible for much more.

It should be remarked that the diminution in the funds of building societies in England and Wales has not been continuous during the whole of the period 1884-94. They continued to increase up to 1890, when they reached their highest point, viz., 50,778,797*l.*, an increase of 1,840,447*l.* in six years. They dropped 196,432*l.* in the return published in 1891; 869,363*l.* in that published in 1892; and 7,029,731*l.* in that published in 1894. No return was ordered in 1893, and as there has been hitherto no fixed time for sending in returns, it is not possible to fix more accurately the time when this great and sudden fall took place, than by saying that it may serve as some measure of the extent of the disaster caused to building societies by the Liberator crash.

Whether building societies will recover the position they have thus lost I cannot but think to be doubtful. The partial return of properties in possession made in 1893 by 716 societies shows that there are grave possibilities of loss which only careful management can avert, and it would be futile to anticipate the results of the fuller disclosure which is provided for by the Act of 1894.

The following table gives the comparative figures of societies in Scotland and Ireland:—

TABLE VI.

	Scotland.		Ireland.	
	Returns of 1884.	Returns of 1894.	Returns of 1884.	Returns of 1894.
Number of societies	54	90	40	79
„ returns	46	89	36	50
„ members	6,790	22,183	2,272	8,017
	£	£	£	£
Annual receipts	462,166	491,587	767,395	413,456
Liability to shareholders	742,964	745,637	686,582	576,730
„ creditors	303,924	220,788	441,077	124,641
Balances of profit	20,955	38,784	10,603	33,906
Due on mortgage securities	949,820	868,799	1,083,817	658,230
Other assets	60,957	130,654	65,215	73,161
Balances deficient	1,544	157	4	2,069

It will be observed from these figures that societies in Scotland and Ireland have suffered from the same influences that have been so disastrous to English building societies, and that their assets have diminished during the ten years, especially in Ireland. The following are the figures for the United Kingdom:—

	Return of 1884.	Return of 1894.	Difference per Cent.
Number of societies	1,947	2,378	Increase 22
„ returns	1,779	2,297	„ 29
„ members	522,729	397,895	Decrease 24
	£	£	
Annual receipts	22,394,772	17,319,114	„ 23
Liability of shareholders	32,496,433	31,033,096	„ 5
„ creditors	16,998,438	11,490,581	„ 32
Balance of profit	1,736,932	2,103,228	Increase 21
Due on mortgage securities	48,259,806	40,546,929	Decrease 16
Other assets	2,838,323	3,867,186	Increase 36
Balance of loss	88,926	205,374	„ 131

This makes the net decrease in assets of building societies in the United Kingdom during the ten years 1884-94, 6,684,014*l*.

Industrial and Provident Societies.

An Act passed in 1893 consolidates and amends the law relating to these societies. The statute under which they had been previously regulated was passed in 1876. A comparison of the three years 1873, 1883, and 1893 will show the progress these societies are making. It should be explained that the figures for 1883 do not include land societies, and those for 1893 do not include either land societies or loan societies and trading banks; such societies not being in general in intimate association with what is called the co-operative movement.

TABLE VII.—ENGLAND AND WALES.

	1873.	1883.	1893.
Number of societies making returns	790	870	1,333
Number of members	340,930	576,477	1,057,816
Increase " during the year	38,734	3,867	34,330
	£	£	£
Amount of share capital paid up	3,334,104	6,871,590	12,666,533
Amount of loan capital paid up	431,808	1,165,956	2,110,556
Sales of goods during the year	13,651,127	23,583,503	39,085,246
Stock in trade	1,439,137	2,727,146	4,548,132
Net profit of the year	958,721	1,926,488	3,497,257
Amount applied to educational purposes	—	14,869	29,151
Investments other than in trade	—	4,012,083	5,542,113
Interest and profit on investments	—	104,122	126,972
Trade charges	—	1,516,800	2,373,908

The following are particulars of societies established under the Act of 1876 for the sole purpose of carrying on the trade of the buying and selling of land:—

TABLE VIII.

	1883.	1893.
Number of societies	51	84
" members	4,907	9,700
	£	£
Receipts	42,421	99,019
Land and buildings	20,930	31,065
Management	15,884	19,879
Share capital	90,292	247,423
Debts	143,775	264,393
Balance of profit	21,049	29,319
" loss	2,885	4,399
Value of land and mortgages	225,716	474,563
Other assets	19,390	62,173

Besides the societies for the sole purpose of dealing in land, many of the ordinary co-operative societies deal in land and buildings, mostly for the convenience of their members. On this question I read a paper before you on 16th June, 1874, giving the results to 31st December, 1872, and I now compare them with those to 31st December, 1891.

TABLE IX.

County.	Number of ordinary Societies dealing in Land.		Value of Buildings and Lands Purchased, as an Investment.	
	1872.	1891.	1872.	1891.
			£	£
Lancaster	52	114	162,265	1,225,750
York	29	81	40,159	625,121
All other counties	39	179	29,364	646,984
Total England and Wales..	120	374	231,788	2,497,855

The following figures relate to co-operative societies in Scotland and Ireland:—

TABLE X.

	Scotland.		Ireland.	
	1883.	1893.	1883.	1893.
Number of societies	287	346	8	39
„ members	104,343	204,826	871	3,338
	£	£	£	£
Share capital	620,535	1,831,875	8,710	20,330
Loan „	372,488	1,405,231	100	6,526
Sales of goods	4,482,306	9,758,788	23,501	207,002
Stock in trade	539,996	1,242,940	1,585	3,790
Net profits	390,923	962,581	1,782	3,555

The totals for the United Kingdom are:—

	1883.	1893.	Increase per Cent.
Number of societies	1,216	1,831	51
„ members	686,598	1,278,589	86
	£	£	
Share capital	7,591,127	14,766,161	95
Loan „	1,682,319	3,786,706	125
Sale of goods	28,110,240	49,150,055	71
Stock in trade	3,268,727	5,794,862	77
Net profits	2,337,357	4,448,313	90

The amounts given in this table do not include those relating to loan societies and trading banks, and the amount of stock in trade is exclusive of land societies.

The increase of capital (share and loan included) during the ten years 1883-93 is 9,279,421*l.*, or almost exactly 100 per cent.

Loan Societies under the Act of 1840.

The following are particulars relating to these bodies:—

TABLE XI.

	1873.	1883.	1893.
Number making returns	464	438	349
„ of members	32,100	42,895	40,290
	£	£	£
Payments of capital by members during the year	204,128	111,426	98,062
Amount in borrowers' hands	380,543	319,890	256,139
„ circulated during the year	613,963	506,432	358,737
Number of applications for loans during the year	134,700	97,209	73,981
Number granted	124,664	91,240	65,017
	£	£	£
Amount received for interest, &c.	38,459	26,543	19,525
Expenses of management	17,797	13,220	10,847
Net profit	17,461	17,452	13,306
Summonses issued during the year	8,201	5,096	3,081
„ to recover	15,896*l.*	11,345*l.*	7,500*l.*
Distress warrants issued	1,614	771	383
	£	£	£
Amount recovered	12,772	9,954	5,245
Costs not recovered from borrowers	337	317	292

It will be observed that the operations of these societies, unlike every other class of society with which we have to deal, show a steady diminution during the twenty years. Their place has been to some extent occupied by specially authorised societies. Societies under the Act of 1840 are limited in the amount of loans to 15*l.*, and strictly limited in the interest they are allowed to charge to an equivalent of about 12 per cent. per annum. The diminution of capital (represented by the amount in borrowers' hands) in the ten years 1883-93 is 63,751*l.* This Act applies to England and Wales only.

Railway Savings Banks.

By a return presented to Parliament in 1876, there were nine railway savings banks established under private Acts of Parliament, with 7,898 depositors and 153,512*l.* capital. The returns for the year 1894 made by ten such savings banks in England and Wales show 24,889 depositors and 1,909,896*l.* capital. In eighteen years, therefore, the depositors have increased threefold, and the capital twelvefold.

The balance sheet of the year for the ten banks is as follows:—

	£		£
Due to depositors at beginning of year........	1,756,328	Withdrawals during the year	262,746
Deposits received during year	346,131	Balance due to depositors at end of year, as above	1,909,896
Interest added	70,183		
	2,172,642		2,172,642

The number of transactions during the year was, deposits 131,611 (averaging 2*l.* 15*s.* each), withdrawals 17,905 (averaging 15*l.* each). The average amount of each deposit account is 77*l.*

These banks are in general available for all persons employed in the service of the company and their near relatives. There is no limit to the amount of deposits, and many accounts exceed the sum which would be allowed in an ordinary savings bank. In the oldest of these banks, the Manchester, Sheffield, and Lincolnshire, the average amount of each account is 124*l.*

There are four railway savings banks in Scotland, having 4,231 depositors, and a total of 560,069*l.* deposits. The excess of deposits over withdrawals for the year 1894-95 is 84,830*l.*

Total for Great Britain.

Banks	14
Depositors	29,120
Amount due	£2,469,965
Excess of deposits (exclusive of interest) over withdrawals during the year........	£168,215

In my previous paper I estimated the deposits in railway savings banks at 645,331*l.*, "probably much more," precise information not being forthcoming. Assuming that they then amounted to as much as 850,000*l.*, it would seem that they have increased during the ten years 1884-94 by 191 per cent., or 1,620,000*l.*

Savings Banks.

The following table shows the increase in the funds held for savings banks by the National Debt Commissioners:—

TABLE XII.—UNITED KINGDOM.

	28th February, 1885.	16th March, 1895.	Increase.	Decrease.
	£	£	£	£
Trustee savings banks	45,779,433	43,865,649	—	1,933,784
Post office savings banks..	46,084,697	92,461,601	46,376,904	—
Stock held for trustee savings banks	544,658	1,324,984	780,326	—
Stock held for post office savings banks...	2,048,284	7,073,406	5,025,122	—
			52,182,352	—
	94,477,072	144,725,640	50,248,568	

To these should be added the balances in hand of the several banks and their special investment funds,

General Summary.

The funds now invested in the various classes of institutions referred to are:—

	£
Savings banks	144,725,640
Registered friendly societies	28,500,000
„ trade unions	1,378,007
Incorporated building societies	44,414,115
Industrial and provident societies	18,552,867
Certified loan societies............................	256,139
Railway savings banks............................	2,469,965
	240,296,733

The increase in the ten years is:—

		£
Savings banks		50,248,568
Friendly societies....		5,000,000
Trade unions...		608,610
Industrial and provident societies		9,279,421
Railway savings banks............................		1,620,000
		66,756,599
Less decrease—		
In building societies............	6,684,014	
„ loan societies	63,751	
		6,747,765
		60,008,834

The increase in the savings bank fund is 53 per cent., and in the funds of societies other than building and loan societies 48 per cent. Allowing for the decrease of 13 per cent. in the capital of these societies, there is upon the whole a net increase of 33 per cent. The population increases during ten years at a little more than 8 per cent.

It would be idle to say that this marvellous increase arises wholly from the savings of the working classes. It is not possible so to split up the community as to say that the money deposited in savings banks or building societies belongs exclusively to one or other class, or so much to one class and so much to another. Here and there figures will overlap, as, for example, with respect to the deposits of friendly societies in savings banks; but the aggregate is too large to be sensibly affected by any such considerations, and the necessary omissions of large bodies of unregistered and unincorporated societies more than countervail any error that may arise from this source.

I hope, not without confidence, that if I come before you in April, 1905, with another similar paper, it may tell a corresponding tale of progress, untouched by the issues of such calamities as have affected the record of the past ten years.

SOME ILLUSTRATIONS *of* FRIENDLY SOCIETY FINANCE.

By REV. J. FROME WILKINSON, M.A., F.S.S. (*Member of the Committee of the Friendly Societies Conference*).

[Read before the Royal Statistical Society, 23rd April, 1895.
C. S. LOCH, ESQ., Vice-President, in the Chair.]

THE purpose of the short paper offered to-day is no more than supplemental to the more comprehensive paper which we have just heard. If it were otherwise, it would be singularly out of place, but restricted, as it is, to the elucidation of an issue which carries with it life or death, I trust it may not be without its usefulness. The general position of the friendly society and mutual thrift movement has been put before us in its various economic, social, and financial aspects. My present aim is to do no more than illustrate the last of these aspects by means of a few selected examples which may help us to more accurately determine the exact financial position of those associations of the British workman, which, under the friendly society system, offer sickness benefits, as well as a small sum at death. We shall be better able to gauge weak places in the machinery, and indicate the lines on which financial reform should run, after analysing typical examples. In other words, it is most necessary to diagnose the case before attempting to prescribe remedial measures. I would, further, claim the indulgence of skilled financial and actuarial authorities in trespassing upon their ground. My excuse must be a long and close acquaintance with the inner workings of these associations, and the hope that a knowledge from the inside, so to speak, of the subject, combined with a reformer's zeal, will be allowed to cover lack of skilled and technical training.

The general financial status of friendly societies may be best summed up in a return asked for by Mr. Joseph Chamberlain, and incorporated in the Chief Registrar's Report for 1891. I believe this return occupied the central office for no less than six months, and largely anticipated the detailed summaries of later valuations which the office are now in process of issuing. It is perhaps the more desirable to make this return a starting point, since it appears to have been strangely overlooked, and, so far as the test of utility goes, to have been almost labour thrown away. The return gives the total number of members, amount of funds, latest valuations (showing surplus, or deficiency, of assets to liabilities), and number of defaulters to the legal obligation of registered bodies to make annual and quinquennial returns. The whole purpose of the return is to show the exact financial position of different classes of friendly and collecting societies. The range of the paper is confined, as has been already noted, to friendly societies proper, to the exclusion of bodies under section 30 of the Friendly Societies Act. These are tabulated under two heads:—

I.

	Number on Register.	Number of Members.	Amount of Funds.
			£
Societies with branches	16,400	1,727,809	12,121,202
Independent societies	10,426	2,133,710	9,289,361
Total	26,826	3,861,519	21,410,563

The valuations work out as follows:—

II.

	Total Number of Valuations	Number of Valuations.		Surplus.	Deficiency.
		Showing Surplus.	Showing Deficiency.		
Societies with branches	11,242	2,281	8,961	874,679	6,716,838
Independent societies	3,717	827	2,890	658,252	3,901,435
Total	14,959	3,108	11,851	1,532,931	10,618,273

The total number of societies and branches on the register on 1st January, 1890, which failed to make annual returns for the past year was 9,279; while 13,492, out of a grand total of 26,865, failed in the matter of quinquennial valuation. At first sight, consequently, it looks as if one half of the number of registered friendly societies had neglected to comply with the requirements of the Valuation Clause of the Act of 1875, and had become defaulters to their legal obligations. This proportion, however, must be largely discounted, and does not militate against sound financial position to the degree the bare figures would lead the casual inquirer to suppose. The return itself contains explanatory foot notes which go to show that the comparison between societies and branches that have made their valuation returns and those that have failed to do so is fallacious, and calls for large qualifications to be made; larger even, if I may venture on an independent opinion, than the Chief Registrar would perhaps be willing to allow. We have to bear in mind three several sources by which the adverse balance will be much reduced in proportion:—

(1.) That over 4,000 bodies had so recently registered that their valuation returns were not due.

(2.) That a large proportion were exempted from making these returns, being either, for example, dividing or deposit societies on the one hand, which from their financial principles (or the lack of such) escape the test of valuation, or, on the other, juvenile societies, with strictly limited liabilities, that do not require the application of the test.

(3.) That the register was an old one, dating, I believe, from the "thirties," and still retaining a large number of societies which were no longer in existence.

This last consideration is the most far reaching of the three, and, from a comparison of the numerous blanks in the summaries of annual and quinquennial returns, with the results of inquiries made at special centres, I am still of opinion that quite four-fifths of the older societies (mainly of the independent class) on the register, and not making returns, should be numbered among the dead, or, as the Chief Registrar has more euphoniously phrased it, shall be set down as "unrecorded dissolutions." And this estimate is borne out by a comparison between the valuation returns issued in 1886 and those for the succeeding quinquennium which are now being issued from the central registry office. A very considerable number of bodies on the register have disappeared, the result of local inquiries that the office have been in a position to make. It is to be hoped that, under a gradual process—I am afraid the men and means at the command of the office are not such as to enable the work to be more quickly executed—the old register will be brought up to date, and no longer contain a "mixed multitude" of the living and the dead.

But while it is manifest that we must not press any comparison between the number of bodies which have, or have not, made their quinquennial returns, there are undoubtedly a proportion, though not a large one, of societies which have neglected their legal obligations as registered bodies.

To return to a consideration of the valuation statistics themselves, I shall not attempt to proportion the relative amount of deficiencies between societies with branches and independent societies. A glance at the "Reports of the Summaries of Valuation "Returns" will show that, owing to the ruling of the late Mr. Tidd Pratt, branches could not, until after the passing of the enabling Act of 1876, register as such. Consequently, though in steadily lessening numbers, we have bodies which are (and often have been for long periods of years) still classed with independent societies, though *de jure*, by right of birth and constitution, they are part and parcel of a society of the affiliated type.

Again, there are other reasons against pressing the rough classification into societies with branches and independent societies very far. I shall venture to draw a somewhat stricter definition of the first of these two divisions; and restrict it to those bodies which not only possess nominal branches, but also *bonâ fide* permanent branch benefit funds, besides central fund or funds. For example, it is not customary to include among the orders, or affiliated societies, a county society like the Hampshire or Dorsetshire Friendly, a centralised or semi-centralised society like the United Patriots (London), or the Rational Sick and Burial (Manchester); there are a number of bodies which have what have been aptly termed "shadow" branches, paying-in agencies which transmit to the one central office. Such are scarcely to be ranked among the number of affiliated orders or societies with branches. Once again mention is made in the valuation summaries of between 130 and 140 affiliated orders, of which 35 are designated Oddfellows. We may dispense with the hundred at once, as being only nominally societies with branches. High sounding in title, they, for the most part, consist of off-shoots which have severed themselves from their respective parent body and set up on their own account. They are markedly "independent" societies, consisting, more often than not, of some single lodge, or court, of an order, restricted in geographical area of membership to a single town or village, and containing in themselves, in a state of arrested development, central body, district, and lodge or court; 65 of them are limited to a membership of from 36 to under 300; in short, a more careful inspection—which, of course, it is beyond the duty of the central registry office to undertake—would result in the transfer of a large number of bodies from one class to the other.

We must not consequently lay stress on the proportions of the total differences and total surpluses which are respectively set down to societies with branches and those societies of the independent class; nor should the totals of members and worth of funds of the respective classes be regarded as more than approximate. It will be safer to rely on the grand totals of both classes together, which, as we have already noticed, work out as follows:—

Number of members	3,861,519
	£
Funds	21,410,563
Surplus under valuation	1,532,931
Deficiency	10,618,273

The total number of valuations which show a surplus of assets to liabilities is 3,108, while the numbers showing a deficiency is 11,851.

It must, however, be borne in mind that in an affiliated order, the one valuation summary is in reality nothing more than the totals of the valuations of the several branches which belong to the respective orders. Strictly speaking, each of these is a separate valuation.

I proceed to take some typical illustrations, in order to make clear the manner in which these surpluses and deficiencies in friendly society finance have been arrived at, preparatory to very briefly indicating possible roads to more secure ground.

If we accept, for the purposes of illustration, the total deficiencies of societies with branches as approximately correct, we shall find that two great societies—twin giants of their class—the Manchester Unity of Oddfellows and the Ancient Order of Foresters, contribute between them about half of the gross amount of deficiency. This, as we shall see, is in a great measure due to their larger growth; in other words, it is absolute, not relative. Let us take the Foresters first. I shall gather particulars from the statement of valuations issued by the society, as compiled by Mr. James Barns, a distinguished member of the Order. And here, in the first place, it is necessary to note that not only are the valuations, or financial stock-takings, of the several districts and courts separate actuarial estimates of the financial position of these said branches, but they have been made by different hands. The Order has not thought well to appoint one valuer or firm of valuers, as, so far as I am aware, has been the case with other societies, but has left it open to each district or court out of district (local branches, that is, which are directly connected with the central body, without the intermediation of the local limb, as it were, of a district) to appoint its own valuer. I am afraid I am unable to commend this system, or rather lack of system. There are still too many branches of the affiliated orders that are advocates of a cheap economy which is not promotive of efficiency. Legal obligations have to be fulfilled, but perfunctory carrying out of such, at a minimum of cost, quite satisfies the average member, who too often has a traditional and non-scientific financial test of his own, which he thinks good enough without troubling himself about what he calls "Government" valuations—which mean money. Tenders are asked for when the valuation becomes due, and in too many cases the lowest is accepted without further inquiry. There is no need for me to attempt to lay down the essentials of efficient valuation, that has already been done once for all by one of our Fellows, Mr. Francis G. P. Neison. I will only remind you that too often the standard tables (either Ratcliffe's or Neison's) are used, while the actual sickness and mortality experience of the respective branch under valuation is not compared with the standard employed, and sometimes the fact that the branch funds may be earning a less rate of interest than that calculated upon by the compiler of the tables of contribution is not sufficiently pressed home; while the consequent loss itself is not allowed for in the actual figures. Nor are the same methods always followed: one valuer will make large allowances for the financial value of secessions, while another will sternly set his face against the more common practice. I now proceed to give the valuation itself, as at 31st December, 1890:—

Dr. *Liabilities.*		*Assets.*	*Cr.*
Present value of—	£	Present value of—	£
Sick benefits	11,080,393	Total funds	2,756,059
Funeral benefits	3,477,125	All contributions	9,373,148
Contributions to district funeral fund	1,139,906	Funeral re-assurances	2,195,784
Share of district deficiencies	617,972	Share of district funds or district surplus	44,070
Other liabilities	354,770	Other assets	189,397
Liabilities not detailed	1,082,359	Assets not detailed	838,092
			15,396,550
		Deficiency	2,355,975
	17,752,525		17,752,525

I have taken the valuation schedule in the Foresters' “Green Book,” in which some of the detailed figures are more recent than those in the official summary of valuations. The result is in favour of the Order, since the degree of solvency is 17*s.* 4*d.* in the £, as against 16*s.* 10*d.* A few notes, chiefly gathered from the compiler's report, will not be out of place for the better elucidation of certain details:—

That in 2,733 courts out of 3,610 the valuation rate of interest was 3 per cent.

That in 809 the valuation rate of interest was from 3¼ to 4 per cent.

That "other liabilities" chiefly represent reserves for excessive sickness experience, liabilities of widow and orphans' fund and funeral benefits to children, with balances of funds other than sick and funeral.

That "other assets" in the main represent a 163,519*l.* abatement for light sickness.

That 2,925 courts show deficiencies to the amount of 2,373,424*l.*

That 685 courts show surpluses to the amount of 184,949*l.*

That, consequently, 81 per cent. of courts show deficiencies, and 18 per cent. surpluses.

That while the *average* degree of solvency is shown to be 17*s.* 4*d.*, 708 courts were under a 15*s.* degree of solvency in the £, in round numbers, 20 per cent.; 1,050 courts over 15*s.* and under 17*s.* 6*d.*, or 29 per cent.; 1,150 courts over 17*s.* and under 20*s.*, or 31 per cent.; the remaining courts possessing surpluses.

Reserving any general observations until we have had other illustrations in friendly society finance before us, one or two particular notes seem to be called for. Seventeen districts made no returns; hence we have not here the full strength or full weakness of the society as a whole. A supplemental "Green "Book" has been promised, which would supply *lacunæ*, but, up to the present, it has not been issued, chiefly, it is said, for economical reasons. It would not be fair to assert that such a supplement would in the main go to swell the deficiency side, though it must be allowed that those branches or courts which systematically neglect to make returns are, on the face of it, under a much less than average degree of efficient management, and are, consequently, not likely to come up to average financial solvency.

Further, I cannot help expressing regret that one recommendation of the High Court of 1883, which authorised the publication of the "Green Book," has not been carried out; namely, that the suggestions of the respective valuers of courts and districts for the removal of deficiencies should be inserted. It appears from the individual returns made to the executive council and examined by the compiler, that in many of them "the "information was very meagre, containing only the total liabilities "and assets with deficiencies or surpluses." This omission is to be the more regretted, since the total valuation statistics of the Order, as a whole, represent nothing tangible with regard to the application of remedial measures, the strength or weakness residing in each individual branch. In other words, deficiencies are local, and the exact application of treatment must necessarily be local also. But without a knowledge of the special remedies and conditions applicable to each branch, it would seem scarcely possible to bring the influence and prestige of the Order and a strong current of public opinion to bear on the several parts of the machinery which stand in need of overhauling. This, again, is only another instance of the drawbacks that must attend the employment of a "mixed multitude" of valuers.

Further, though the "Green Book" contains summaries of the second valuation of the courts and districts of the Order, it is the only one which has been published, so any comparison with a previous quinquennium is out of the question. It is true that the registry office has issued two reports of valuations for 1880 and 1885 respectively, but, as the executive council of the Order note, the reports were so incomplete in numbers and the data so insufficient that no trustworthy comparison could be made.

We must not take leave of the Foresters without mention of the splendid work of a Fellow of this Society, Mr. Francis Neison, on the "Data of Mortality and Sickness" of the Order. Mr. Neison furnished ample and trustworthy data for the valuation, and perhaps the best thing that can be said about the different branch valuations is, that the respective valuers appear to have made the best use of Mr. Neison's brains. The data furnished to Mr. Neison embraced 1,302,166 years of life, covering a single quinquennium.

Turning to the Manchester Unity, we are at once in a position to make a series of interesting comparisons. As is well known, the Manchester Unity has been the financial pioneer among the societies with branches, having made, on the advice of Henry Ratcliffe, an application of the financial test of valuation before it became, under the Act of 1875, compulsory on all registered societies, except those specially exempted. I need not either stay to remind you of the sickness and mortality experience of the great Secretary of the Order, which has become the standard authorised by the Treasury in their instructions issued to public valuers. Suffice it to say that the first valuation of 1870 was undertaken on the Order's own sickness experience of 2,948,839 years of life, yielding a sickness of 3,905,346 weeks. A comparison is given below of the general summary of the first and second valuations, both made by Mr. Ratcliffe himself:—

	1870.	1875.
Number of members making returns	376,580	462,834
" not "	33,823	2,583
Capital in hand	2,558,735*l.*	3,607,126*l.*
Total liabilities	10,767,838*l.*	11,936,276*l.*
Total assets	9,424,391*l.*	11,564,111*l.*
Number of lodges with surplus	804	1,583
Amount of surplus	17,230*l.*	213,130*l.*
Number of lodges with deficiency	2,359	1,906
Amount of deficiency	1,360,677*l.*	583,298*l.*

Before entering upon an examination of these statistics, it will be the better plan to give the results of further valuations, and so bring the illustration up to date:—

	1880.	1885.	1890.
Number of members returned............	472,388	534.203	587,912
Present worth of capital	4,250,382*l.*	5,167,338*l.*	6,076,116*l.*
Total liabilities	13,313,682*l.*	16,239,487*l.*	18,774,756*l.*
„ assets	12,685,862*l.*	15,474,666*l.*	18,143,491*l.*
Number of lodges with surpluses	—	1,362	1,514
Amount of surpluses	617,636*l.*	604,070*l.*	702,078*l.*
Number of lodges with deficiencies....	—	2,190	2,094
Percentage deficient	61·08	61·55	57·83
Amount of deficiencies	1,315,586*l.*	1,368,891*l.*	1,333,343*l.*

These comparative statistics might doubtless be given in a more strictly scientific method, but I have thrown them into this form in order to show more clearly what appear to be the general conclusions and lessons which may be drawn. There stands out on the front of such, the fact, sometimes overlooked by outside unskilled criticism, that valuation is no absolutely accurate measuring rod, but (when efficient) the most approximate estimate of financial position which can from time to time be made. We also have the advantage of continuity of methods, together with improvements such as a growing knowledge and more accurate application suggest. The three last financial stock-takings are the work of the veteran actuary of the Manchester Unity, Mr. Reuben Watson, the pupil and successor of Henry Ratcliffe. We see, further, how necessary it is for the purposes of sound judgment that the test of valuation shall be applied with regularity, at the least quinquennially, and that, consequently, it is the more difficult to judge of the exact financial position of a great, wide stretching Society like that of the Ancient Order of Foresters, when we only have before us the results of a single valuation. I proceed to make such observations as the twenty years' survey of the finances of the Manchester Unity seem to call forth, and in so doing I would once for all beg to acknowledge my indebtedness to my friend, Mr. Reuben Watson. I have done little more than put together the observations that he has from time to time felt it his duty to make in those full valuation reports that have been issued to members and the public by the Society, and to add a few explanatory notes.

Besides the general summaries, we have observations upon each district in the Order, giving the word of encouragement to persevere in well doing, and also, where necessary, the emphatic, plain-spoken warning, with clear indications of the better way, the path to the goal of actuarial solvency.

There was no need to continue, after the first two valuations, to give the number of members not making returns. For practical purposes the later valuations may be taken as complete, giving from time to time the financial position of the Order in Great Britain.

The worth of capital shown is that of the different lodges, not the full capital of the Order, which would be inclusive of subsidiary insurances. The valuations are practically concerned with the sickness and funeral liabilities brought to the Society by the adult members.

It will be noted that under the heading of "total assets" is included the previous heading of "worth of capital." It was desirable to show the proportion which realised assets bore to prospective, since obviously it is by the increase of the latter that further advance towards the goal of full actuarial solvency must in the main be effected. It will at once be seen that whereas the total worth of capital, or realised assets, was, in round numbers, 2,558,000*l.*, and the present value of prospective assets, or future contributions, stood at 7,865,000*l.* twenty years ago, the figures in 1890 had grown respectively to 6,076,000*l.* and 12,067,000*l.*, while the total liabilities had increased from 10,767,000*l.* to 18,774,005*l.*

The deficiency amounts are set down in the gross, without the respective surpluses being regarded as a set off, because though the presence of such surpluses are in themselves a source of strength and stability to the Order as a whole, they are the property of certain individual lodges and members, and are not available for the reduction of the deficiencies shown in other lodges.

The amount of decrease in the estimated deficiencies in the second valuation (1875) stands out in marked contrast with the results of the three subsequent quinquennial periods, and on the surface it looks as though a strong retrograde movement set in in the 1875-80 quinquennium, seeing that the gross deficiencies were double those of the previous quinquennium; that no financial progress, but rather the reverse, was effected in 1880-85, and very little in the last quinquennium—the gross amount of deficiencies for the five years ending 1890 being only 27,000*l.* less than the amount for the years ending 1870. This is of course a mistake, as no allowance has been made for increased membership, since the number of members' lives under valuation in 1890 was over 211,000 in excess of the number twenty years previously. There has been very marked *relative* decrease in the amount of deficiencies. There is still the large reduction shown in the valuation of 1875 to be accounted for. The key to the mystery lies in a subsequent non-realisation of the rate of interest calculated upon, 44 per cent. of the lodges having been valued at 4 per cent. Other causes also operated in the valuation of 1880; special allowance was for the first time made for the extra risks or liabilities which were brought upon the Order by members who were engaged in mining or other hazardous occupations, and the additional estimate—again for the first time in operation—that single members will some day marry and bring in a wife's funeral liability.

Valuation at a reduced rate of interest still continues to operate, and Mr. Reuben Watson, in his valuation of 1885, did not see his way to allow for a continuance of a 4 per cent. valuation of the funds of lodges save in a trifle over 5 per cent. of the same; while in 1890 the valuer felt the imperative need of lowering the rate of interest employed to 2¾ per cent. in the case of lodges which were still content "with the low rate obtainable from savings banks or "consols."

As regards the deficiency lodges, the valuer, Mr. Reuben Watson, has dealt at length with their position in the last valuation of the Order, but before we enter upon this portion of our subject, it is necessary to state that, although there was an increase in the gross deficiencies in 1885, there was, as the valuer has pointed out, a still greater proportionate increase of assets and liabilities, so that "whereas the gross deficiency in 1880 was 9·65 per cent. of the "liabilities, it was in 1885 reduced to 8·61 per cent." In 1890 we find that out of 3,621 lodges, or branches, under valuation, 1,514, or 41·81 per cent., came out with a surplus, while 2,094, or 57·83 per cent., show deficiencies, 13 being equal in the relation of assets to liabilities. This revealed an increase of 159 solvent lodges since 1885, an increase in percentage of 3·72, and the deficiency lodges had also decreased in number by 96—a decrease in percentage to the whole of 3·72. The following table shows the exact proportion of assets to liabilities in the deficiency lodges:—

Relation of Assets to Liabilities.*	Number of Lodges.	Percentage of all Lodges in Deficiency.	Percentage of the whole Number of Lodges.
Over 95 and less than 100 per cent.	541	25·83	14·94
" 90 " 95 "	398	19·01	10·99
" 80 " 90 "	593	28·31	16·38
" 70 " 80 "	337	16·10	9·31
Under 70 per cent.	225	10·75	6·21
	2,094	100·00	57·83

* "Valuation Report," 1890, p. xi.

With the experienced valuer to whom the Order owes so much, we may at once dismiss those lodges in which the proportion of assets to liabilities exceed 95 per cent. A very small fluctuation would bring to them full actuarial solvency, nor need we linger over those branches which show assets equal to 90 per cent. A slight improvement in management, a little more careful supervision of sick pay, or a little more attention to the earning powers of capital, would at once set them well on the road to the desired goal. The total percentage, therefore, of lodges which we may dismiss from our present consideration, as practically solvent,[1] will be 68·10, leaving rather under 32 per cent. as requiring the immediate application of strong remedies, and of this 32 per cent., a little over 6 per cent., or 225, have assets which are under 70 per cent. of their liabilities.

It was my intention to produce additional illustrations of finances from other of the societies with branches, but time will not allow. It may be said that the worth in the £ of such bodies varies from 21*s.* 8*d.* in the Scottish Order of Oddfellows, and from over 18*s.* in the Locomotive Steam Engineers and Firemen's Society and in the Manchester Unity, to under 15*s.* and over 10*s.* in certain Orders of the Mechanics, Free Gardeners, Sons of the Phœnix, &c. I subjoin the last valuation of an Order of 11,545 members, in order to show how *relatively* large the deficiency is as compared with that either of the Foresters or Manchester Unity. I have not given the title of the society, because it is scarcely fair to pick out one and leave another, especially since I understand that the executive of the said society is engaged in the application of remedial measures:—

Dr. *Liabilities.*	£	*Assets.* *Cr.*	£
To present value of sickness benefits	314,610	By present value of contributions to sick fund	137,417
To present value of funeral allowances	76,023	By present value of contributions to funeral fund	36,497
		Capital in hand	36,414
		Deficiency	190,305
	390,633		390,633

I have designedly introduced this illustration in order to show the financial position of a society with branches such as the Manchester Unity, holding a position at one end of a comparative table of solvency, or worth in the £, and another member of the same class that has to take a position at the other end. In the former illustration we have a society with total liabilities exceeding 18½ millions, with a gross actuarial deficit of under 1½ millions; while in the latter we have a society which has to provide for a total liability of 390,000*l.*, but which, inclusive of realised and prospective assets, is in a position to do little more than meet half that liability. Well may the valuers append to the summary of the valuations of the several branches :—"This is "a very alarming state of things, which, if allowed to continue "and increase at the same rate" [10 per cent. in deficiency per member since the previous valuation] "will most assuredly result "in the total extinction of the Order in the near future."

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[1] "Valuation Report," 1890, p. xii.

I must hasten on. In turning to the class of large general or centralised societies, one naturally puts in the forefront the giant of the type—the well known Hearts of Oak. But, as Mr. Ralph P. Hardy, in a paper read before the Institute of Actuaries, has recently made an exhaustive inquiry into the question of friendly society finances so far as that society is concerned, I cannot do better than send inquirers to the fountain source. They will find in Mr. Hardy's paper—since issued in pamphlet form—a detailed, and, if it is not impertinent for an amateur to say so, strikingly lucid unfolding of the experience of the great leader of the centralised class. There is, however, another society that is general in the geographical area from which it draws membership—the Rational Sick and Burial Association—of which the valuer, Mr. E. J. Farnworth, Fellow of our Society, has given most elaborated and full details and comparisons. One of Mr. Farnworth's tables showing the comparative results of these valuations is given on p. 316.

We are here face to face not only with reserved evidence of the effect of valuation at a reduced rate of interest, but with the still more startling effect of making financial allowance for the secession or lapsing of members. Perhaps I may be allowed to quote from a calculation made from Neison's "Foresters'" experience as showing the financial value of secession, where no surrender value is given :—"Not allowing for lapses, out of 100,000 members "joining at 18, there should be 71,353 remaining in the Order at "the age of 50; whereas, making allowances for lapses, there will "only be, out of the same number, 15,325 left at the latter age in "the Order. In other words, that while 28,647 had been paid for "at death, 56,028 had voluntarily left without payment" ("Mutual "Thrift," p. 266).

I now draw these fragments of observations to a close. It should be clearly understood that the few illustrations of the working of friendly society finance which I have ventured to bring to your notice have been selected simply because they were ready to hand, and, also, that no such illustrations could in any way be complete without the inclusion of the twin giants of the Oddfellows (M.U.) and Foresters. I have, further, restricted the

Rational Sick and Burial Association, Sick and Funeral Fund. Table showing the comparative Results of Valuation.

Date of Valuation to December 31.	Number of Members.	Total Liabilities without Secessions.	Total Assets without Secessions.	Estimated Deficiency without Secessions.	Estimated Deficiency with Secessions.	Deficiency per Member.		Relative Worth in the £.		Rate of Interest used.	Tables used.	Valuers Employed.
						Without Secessions.	With Secessions.	Without Secessions.	With Secessions.			
		£	£	£	£	£ s. d.	£ s. d.	s. d.	s. d.	£		
1880	29,441	625,242	494,894	130,348	80,348	4 8 7	2 14 7	15 10	17 2	4 %	I.O.O.F....	Gomme and Hatton
'86	42,773	1,025,935	757,868	268,067	193,067	6 5 4	4 10 8	14 9*	15 11	3½%	" ...	Walton
'91	60,462	1,762,302	1,315,571	446,731	282,521	7 7 9	4 13 5	14 11	15 6	3 %	A.O.F.	E. J. Farnworth

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* This amount was lowered by 5*d.* in the £ by the net method of valuation adopted, which has the effect of excluding the loading of the contributions for management, &c.

paper to a consideration of deficiencies, because it is with these that the financial reformer has to deal. It should also be clearly understood that I have not selected illustrations because results were either good or bad, but because certain details could be the more easily obtained. A brief summary of causes of deficiencies will, I trust, enable me to indicate remedial steps which it is advisable should be taken by the legislature with a view of steady advance along the path of progress. The amount of deficiencies set out in the return asked for by Mr. Chamberlain may not be so alarming as at first sight they appear, but there can be no question that, owing to increase, at compound rate of interest, prompt measures are imperative in order to reduce that amount.

The causes and remedies contain nothing new or startling. I can but claim to present them in a consolidated form, and with a stress upon their prime importance that a somewhat extended acquaintance with the friendly society movement may warrant me in pressing home. There should, at the present stage of an inquiry into the weak places in the fabric of friendly society finance, be no need to affirm that, since the deficiencies we have had under consideration are for the most part the result of many years' lack of clear actuarial knowledge—are so largely due to errors of a past—heroic measures for the attainment, at a single bound, of the goal of solvency are altogether out of place and impracticable in application. The path to full financial security must, at the best, be no more than a steady breasting of the Hill Difficulty, a sustained and oftentimes slow movement in the direction of the much to be desired end. The strong language which some outside critics are wont to indulge in is altogether beside the mark. Education, not denunciation, must be the leading factor in a permanent improvement of the present position.

It must further be made clear that in all classes of societies it is the rule that the question of deficiencies is being faced, and that the respective central authorities are taking steps to improve, without delay, the financial position of branches which are below a specified degree of solvency. My purpose is to see what outside assistance may be given to such laudable endeavours.

LEADING CAUSES OF DEFICIENCIES AND SUGGESTED REMEDIES.

I. *Insufficiency of Annual Premiums, or Members' Contributions, to carry the Benefits Insured.*

This, of course, would operate far more in some societies than in others. It at once condemns all tables or schemes of contributions which have not been certified by an actuary. Such tables may be sufficient, but we have no warrant that they are, and in the vast majority of non-registered bodies it is manifest by comparison that the tables in use are insufficient. But this insufficiency is not restricted to non-registered societies; unfortunately it obtains to a very considerable extent in some of our larger registered bodies. The large deficiency in the Rational Sick and Burial is principally due to this cause, and the revised monthly payments contained in the report of the Finance Committee presented to the delegate meeting of 1893 would raise the old payments 4*d*. per month per member. But the meeting felt that so large an increase could not be carried into effect without causing a devastating flood of secessions. Revised tables have been since adopted and registered which, though they cannot be said to be all one could desire, are calculated to make for securer financial ground. Other societies have adopted a policy of sufficient tables, but have limited them to new membership, not having the courage to make them retrospective. Again, even in societies which have sound actuarial tables in use, in a number of branches the rate of interest—in some instances 3½ per cent.—on which the tables are calculated, has not been realised, hence another cause of deficiencies. Two reasons in chief may be given: (1) it is felt that many members, especially in agricultural districts, would plead inability to pay increased contributions; (2) competition for cheapness causes societies to undersell the benefits they offer. The former of these reasons will be presently dealt with. With regard to the second I can only see one effective remedy, namely, that set forth in a resolution introduced by the Manchester Unity at the recent Conference of Friendly Societies held in London, and seconded by the reader of this paper, on behalf of the United Sisters', Suffolk Unity:—

"That the Parliamentary representative of the Order be "requested to interview the Lords of the Treasury, to induce "them, in the interest of the public, to propose to Parliament an "amendment to the Friendly Societies Act of 1875, to prevent "societies enrolling members by promising larger benefits than "the contributions can meet."

"Proposed Amendment of the Friendly Societies Act, 1875, "38 and 39 Vict., cap. 60, article 10, par. 5, clause (C). To "add the following words after the word 'optional':—'But "'should the tables in use in any society be considered by the "'registrar to be insufficient to pay for the assurance promised, he "'shall compel the society to increase its contributions or decrease "'its benefits in order to prevent insolvency. Should any society "'adopt or continue to use tables of payments and benefits not "'certified by a member of the Society of Actuaries within two "'years after the passing of this Act, it shall incur a penalty of

"'25*l.* for every month it continues to violate the provisions "'contained in this clause.'"

Such amendment would kill non-actuarial tables, and would practically be an extension of a proviso already in operation, to the effect that the tables for contributions for superannuation, or deferred annuities, must be certified by some actuary approved by the Treasury. The proposed extension would strengthen the hands of the friendly society leaders and cut the root of objection, namely, the fear that the partial application of such reform would tend to increase the membership of those inferior societies who did not adopt it, and which would continue to undersell a sound article of insurance. The remedy, in other words, should be made universal in operation. This is not in itself a new proposal, having been from time to time in past years introduced into both Houses of Parliament. But the above occasion is the first on which it has been brought forward by a great friendly society sitting in delegate conference with kindred societies. A large measure of support was awarded it, and the proposal was only lost on division through some doubt as to equity in application, arising out of the question whether the registrar could make allowance for the interest of funds, or realised assets, coming to the assistance of tables of contributions which otherwise might not be deemed as sufficient.

Another amendment of the Act of 1875 is required to make the proposed remedy universal in application, and this was carried at the conference, with strong expressions of feeling in support. It reads as follows: "That, in the opinion of this conference, the "Friendly Societies Act should be further amended by making it "compulsory upon all benefit societies to register under the Act, "and providing penalties for meeting or transacting business until "they are so registered."

I venture to express a firm conviction, shared in by many other delegates at the conference, that it is only by the aid of such legislative enactments as the foregoing that the bulk of friendly societies will eventually be in a position to attain the goal of actuarial solvency.

II. *The Payment of Old Age Pensions or Annuities under the guise of Sickness Benefits.*

It is a well recognised truth that the best of tables will be made of none effect unless a society is also under sound and economic management; while first and foremost among the essentials of such management stands supervision of sick claims. In the present condition of things old members have received, and are receiving, as sick pay, weekly annuities which cover the loss of earning powers arising from the disability of old age, and which have never been paid for. It is overlooked—oftentimes advisedly—that senile decay, a natural process, is not specific sickness. A friendly society sickness benefit was never intended to do more than secure the beneficiary against that loss of earnings which is liable to befall him during his working period of life. The period of past work should be separately insured for. And because this has not been, and is not, the rule, a heavy and increasing strain is put upon sick funds, a strain, moreover, which they were never built to bear.

The following figures, treating of old districts in a large society with branches, will give the difference between the sickness expected, according to Neison's Foresters' experience, and that actually experienced:—

Expected weeks	4,968	Experienced	10,196
"	52,775	"	81,780
"	7,775	"	19,517

Hence a prime cause of deficiencies. The only adequate remedy is a further amendment of the Act, that sickness contracts should cease to run beyond 60 or 65 years of age. The disability of old age will then receive separate treatment, and a long step will have been taken to bring societies nearer to solvency, while adequate contributions will be made easier for agricultural and other ranks of unskilled labour.

III. *Inefficient Valuation and no Valuation.*

I have already dealt with this. The one adequate remedy, in my opinion, is for the home government to follow the example of the government of New Zealand, and grant free valuation with sufficient guarantees of efficiency. Indeed such a privilege would seem to naturally accompany the obligation upon all societies to register.

Much more might be added; but the paper has already overstepped its limits. In conclusion, I can only say that the time has fully come in the history of the Friendly Society Movement, when it is the bounden duty of the State, for the paramount welfare of the community, to wisely and judiciously assist by legislation the friendly societies of our country, as national monuments of working class mutual thrift, to set their house in order, and to encourage the financial leaders among these societies to persevere, by removing from the path of progress certain stumbling blocks and impediments which, at the worst, bar the way or, at the best, retard the pace. Provided such timely, enabling, aid is given, the financial outlook is full of hope, for the realisation of impending dangers is being increasingly felt, and the reforming spirit from within grows stronger day by day.

Discussion *on* Mr. Brabrook's *and* Mr. Wilkinson's Papers.

Mr. A. H. Bailey thought that Mr. Brabrook's paper might with advantage have been restricted to friendly societies alone. In his summary he had spoken of the funds of various institutions as consisting of over 240,000,000*l.*, but that total included 144,000,000*l.* (60 per cent. of the whole) invested in savings banks, and a large proportion of the depositors in the latter were the children of the well-to-do classes, who had nothing to do with friendly societies. Trades unions, again, were not provident institutions. Building societies were also very different. In former years, building societies consisted principally of borrowing and lending members, the former paying an annual contribution for a term rather above the actual rent, in return for which the investing members lent them the money to buy their own houses. That had not worked very successfully; but the gigantic speculative societies of the present day were very far from being provident societies.

In going through Mr. Wilkinson's paper, he had been struck with Table II, in which the deficiencies and surpluses of societies and branches had each been summed up. But in any society the funds were definite amounts, whereas the liabilities were merely estimates, and could not be taken as accurate like the liabilities of a bank or commercial body. It was more difficult to estimate these liabilities for a friendly society than for an insurance society, in which, knowing the laws of mortality, they were on firm ground. Sickness was a different matter, varying much according to the occupation, and it was necessary to base the estimates of sick liability on the actual experience of the particular society. No doubt the funds were often very deficient, but the real cause in most cases was insufficiency of the premium, and the only real remedy was to raise the contribution or diminish the benefit, and of the two methods the second only was probably practicable. In future cases he thought the benefits should be restricted simply to sickness, payments ceasing at a certain age, and that the contribution should increase with age. A fund would of course have to be kept for contingencies, but otherwise the year's contributions would pay the year's claims. No burial payments should be given at all: these could be obtained from insurance societies, of which there was one at present in existence with 11,000,000 members.

Mr. R. P. Hardy agreed with Mr. Brabrook as to the growing prosperity of friendly societies, but perhaps on different grounds. He considered friendly societies to be prospering only when he found a more perfect realisation of the idea lying at the root of these associations, or when he found that the difference between poverty and comfort was being gradually lessened. He could not accept mere figures, or the mere increase of amounts, without comparing them with the growth of the correlative population. A larger number of members and vast funds meant nothing, unless they were measured against the events to which they were correlative. Mr. Brabrook had not taken this into consideration, and, when he stated as satisfactory evidence of growth that the Royal Liver Society's funds, for instance, had increased by 57 per cent. during the ten years, that might, as a matter of arithmetic, be perfectly true, but it did not imply real progress; it merely meant that the society had accumulated further reserves in proportion to its liabilities. He agreed with Mr. Bailey that Mr. Brabrook's collection of facts was open to serious objection. Building societies were the resort of small capitalists, not of men living by labour; and loan societies were a very doubtful form of thrift. He would ask why the author had omitted to include the industrial life insurance societies, which had funds contributed by the working classes amounting to 20,000,000*l.*; juvenile friendly societies had also been overlooked. There was more overlapping in the various investments than Mr. Brabrook would seem to allow. He would further have been glad if the author had shown the extent to which women were protected under the various friendly society arrangements, as he thought such was very insufficient. Mr. Brabrook stated that the increase of funds in friendly societies was due to their having absorbed their deficiencies; he himself felt strongly that the increase was due to entirely different causes.

With regard to Mr. Wilkinson's paper, he thought that, upon proper valuation, some of the surpluses would disappear, and that some of the deficiencies, serious as they were, would be increased, though even these adjustments did not imply the harm most people suggested. There were many banks and building societies which would not like to undergo such a scrutiny as was implied in an actuarial valuation, and he thought the working man came out very well on the whole. He did not think that force was any remedy, or that legislation should be tried as a remedy: the working man knew exactly what he wanted, and would not admit any curtailment of his liberty of combination.

Mr. E. W. Brabrook said that he must express his sincere regret that a long-standing engagement prevented his remaining to the end of the discussion. His object had been simply to present to the Society a number of details concerning the societies with which he had officially to deal. It was to the Legislature that Mr. Bailey and Mr. Hardy must direct their criticisms for putting certain societies in connection with the registry office, and excluding industrial assurance companies. He had only given figures derived from documents actually in his own official possession. The juvenile societies were included among the friendly societies, though no special attention had been drawn to them. He differed from Mr. Bailey in considering that trades unions were not provident societies; he thought that when a man contributed his savings in order to have the means in future of applying a larger sum to provident purposes, he was doing a very provident act indeed. He would like to add that, although the two papers were read together, each author was responsible for his own views only, and he did not assent to the recommendations made by Mr. Wilkinson. No actuary could conscientiously certify to a set of tables for a friendly society of 20 members, and he did not think the Legislature ought to ask any actuary to do it. He was certain that all proposals to make registration compulsory would be futile, and could serve no useful purpose.

Mr. M. N. ADLER considered that, irrespective of the valuable statistics as to thrift which the chief registrar had adduced, they ought to be grateful to him for calling attention to the working of the friendly societies at the end of the twenty years during which the Act of 1875 had been in operation. There were two main principles involved in that Act: one was to make every friendly society, however small, submit annually an audited statement of income and expenditure, also of its funds and effects, to the central registry. This measure at once introduced system and business-like book-keeping into every society, and had worked very well. The second point insisted upon in the Act was a periodical valuation of the assets and liabilities—the object being to bring before every member a knowledge as to the solvency of the society. He questioned whether this object had been attained. There was no clause in the Act directing the management to lay the result of the actuary's valuation before a meeting of the members. A return of a technical character had to accompany the actuary's report, and both had to be sent to the central registry, where they were filed. The Act provided that a copy of the last quinquennial valuation should be hung up at the registered office of the society. In the case of the smaller societies, however, the registered office was generally in an out-of-the-way spot—often in a garret, seldom, if ever, visited by the members. He doubted whether copies of the valuation returns sent to the registrar were retained by most of the societies, and even if this were done, how many members could understand the actuary's report? Of course, the case of the affiliated and other great societies was very different, for they were officered by men who thoroughly grasped what was wanted, and who made the members understand, and eventually got them to adopt the actuary's recommendations. Something ought to be done for the small societies that had not such advantages. He thought that a summary of the valuation in simple words should appear in each year's annual return; also that the registrar should bring gentle pressure to bear upon insolvent societies, and urge upon them to take steps towards meeting the deficiency disclosed by the actuary.[1] He trusted that all those who were interested in the welfare of friendly societies would see that no efforts were spared in future, so that all societies might derive the utmost benefit from the periodical valuations which entailed so much labour and expense.

Mr. J. J. STOCKALL had nothing to criticise in Mr. Brabrook's paper, which was simply a statement of facts showing remarkable progress in every one of the institutions dealt with by the registrar in his office. Considering that all these institutions were self-governed, and had sprung out of the working classes themselves, the figures showed the extent to which thrift had laid hold of the people. He disagreed with Mr. Wilkinson as to the utility of legislating for friendly societies. They had had legislation for a hundred years now, culminating in the Act of 1875. The great feature of that Act was the publicity given to the societies' proceedings. If such publicity could be extended to every society, registered or unregistered, it would be very beneficial; nothing could forward the interest of thrift more than having the facts concerning the societies known not only to themselves but to all the world. The Manchester Unity of Oddfellows had in 1870 published to the world the result of their valuations, notwithstanding the facts it disclosed and the possibility of the result of that publication being to retard the numerical progress of the society. So far from this action having been an evil, it had been of the greatest good in inculcating on all friendly societies the necessity of the quinquennial stock taking. Had the Ancient Order of Foresters done the same in 1870, they would now have been in a better position than they are (not that he was in any way reflecting on the Foresters, but he was simply using them as an illustration). The Act of 1875 having compelled these societies to reveal their position, the Foresters and all other affiliated orders were now putting themselves in order in a remarkable manner. These orders would influence the whole world. The agitation about old age pensions was due simply to the fact that the friendly societies had published their proceedings to the world. Friendly societies were working out their own salvation in their own way, and no legislation was required, except to give the societies liberty to consolidate their present position and to extend their work to earlier periods of life. Twenty years ago there were no juvenile societies; now the old societies were not to be compared with them actuarially; if these juvenile societies were continued on sound principles, and the membership extended to the end of life, they all might be made permanently solvent. Most people were desirous of seeing women's societies established, but all actuaries knew that there were difficulties not met with in the case of male societies. It was impossible to tell whether a woman was really ill or malingering. Still he believed that the question would be solved, and largely by the friendly societies themselves. The difficulty was that actuaries had not sufficient data on which to construct proper tables of contributions and benefits. With the establishment of reliable female societies one of the greatest difficulties with regard to old age pensions would be removed, for there were about three aged female paupers to one male. He was sorry time would not permit his pursuing the several matters referred to in Mr. Wilkinson's paper, some of which he agreed with, but others he was entirely opposed to, none the less he wished to give him credit for desiring to render service to all sound methods of thrift.

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[1] It appears that such a course has of late been adopted.

Mr. R. W. MOFFREY said that Mr. Wilkinson must be thanked for having made known to the reading world the existence of a large body of societies covering this country. These societies had done a great deal of good, and whatever errors they might have fallen into were due, not to want of will to remedy them, but to want of knowledge; legislative interference was therefore not needed. It was true that a representative meeting at Southampton had passed a resolution which might have been interpreted in favour of such an interference; but this had been hastily done, and in the following year at Northampton a proposal to prepare a Bill for introduction to Parliament providing for State interference with the tables and regulations had been decidedly negatived. Mr. Wilkinson recommended that the State should forbid the use of any but certified tables, but, as Mr. Brabrook had already said, no actuary could certify a table applicable to all circumstances. They would be utterly inadequate in the hands of men determined to evade them or careless of seeing them properly carried out. Compulsory government tables would prove an *ignis fatuus*, leading the public to believe that there was absolute security, when all depended on good management. He might be in favour of causing all sick allowance to cease at the age of 65, but there again he would prefer that the societies should work out their own salvation. He must also thank Mr. Wilkinson for enforcing attention to the need of female societies, by the establishment and support of the United Sisters' Friendly Society, without which he believed that the question of female friendly societies would not have attained the prominence now accorded it.

Mr. A. CHAPMAN, as representing the Ancient Order of Foresters, said that the only way in which the Legislature could in any sense aid them was by having patience. The societies were fully alive to the position in which they stood, and were thoroughly anxious that the time should come when they would be able to say that they were worth 20*s*. in the £. They had welcomed the publicity and security afforded by the Act of 1875, and had to some extent given up their freedom by being registered, and rendering themselves liable to a quinquennial valuation. He knew as a fact that these valuation reports were more and more discussed in the separate courts and lodges, and that the members were beginning to understand the main principles of the valuation. The members of his society were strenuously opposed to the compulsion advocated by Mr. Wilkinson. The means of publicity, and of bringing home to the members the true state of the case, were quite ample, and they could trust to the intelligence and honesty of the members to bring about the desired result.

Rev. J. FROME WILKINSON, replying to Mr. Bailey, said that he had carefully noted in the paper that the deficiencies were estimates only, and that they should not be treated in the same way as the surpluses. Mr. Stockall and Mr. Moffrey had credited him with advocating a demand for compulsory powers from Parliament, but he had carefully stated that a demand for State interference with such societies as had not actuarial tables had been made in the first instance at an annual meeting of the Manchester Unity of Oddfellows. He could not agree that that resolution had been hastily adopted; it had been so carefully done, that it was incorporated in a suggestion brought by their representatives before the Committee of the Annual Friendly Societies' Conference. He must defend himself from the imputation of introducing from outside the recommendation that no society ought to be allowed to continue without proper certified actuarial tables. He could not himself be considered as an outsider, for he was a financial member of two societies as well as President of a third, and he was only following in the footsteps of the great Manchester Unity. The Friendly Societies Conference had also by a large majority recorded its opinion that the Act should be further amended by making it compulsory on all benefit societies to register. He agreed with the speakers as to what had already been done by friendly societies to improve their financial position, but he wanted to help them to do more. He had opposed both propositions in the past, because it had been sought to impose them from outside by parliamentary interference, independently of the opinion of friendly societies themselves. One of these principles was now to be incorporated in a Bill which the friendly societies were asking the Government to introduce, and was supported by almost every society he was acquainted with.

MUNICIPAL FINANCE, *or* LOCAL TAXATION *and* LOCAL EXPENDITURE, *as* ILLUSTRATED *by the case of the* CITY *of* BIRMINGHAM. *By* EDWARD ORFORD SMITH, *Town Clerk of Birmingham.*

[Read before the Royal Statistical Society, 21st May, 1895.
CHARLES S. LOCH, Esq., B.A., Vice-President, in the Chair.]

THE City of Birmingham is, comparatively speaking, a young municipality. Its first charter of incorporation dates only from the year 1838, three years after the Municipal Reform Act of 1835, while a second charter was issued in 1889, after an interval of fifty years, raising the borough to the rank of a city.

The Corporation succeeded to but little public property. During its fifty-seven years of existence, it has received many noble gifts; but these consist mainly of parks, public buildings and works of art, and are not in the nature of income-producing property. The municipal expenditure has consequently to be met mainly by rates, supplemented by the profits of certain industrial undertakings, and further aided by the recent contributions from the imperial exchequer.

The following are the principal city statistics:—

Estimated population, 1894	492,301
Area in acres	12,705
Rateable value, 1894	£2,194,500
Number of voters on burgess roll	92,545
„ parliamentary register	80,749

The net outstanding debt of the city, after taking credit for sinking funds in hand, and moneys raised for other local authorities, is 7,861,615*l.*[1] The total capital expenditure to 31st March, 1894, was 9,687,340*l.*, but a sum of 1,825,725*l.* has been provided from income and other sources towards the redemption of the various obligations of the Corporation, leaving the existing outstanding debt 7,861,615*l.*, as above stated.

This debt is composed of three classes of obligations:—

I. Gas and Water Annuities, irredeemable except by agreement with the holders, but for which a statutory sinking fund is provided. For the purpose of capitalisation these annuities have been taken at twenty-five years' purchase, at which rate some have actually been purchased for extinction, but they now command a much higher price, and at the present time purchase by the Corporation for extinguishment has almost ceased. These annuities, capitalised as above, originally amounted to a total of

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[1] "Treasurer's Blue Book," 1894, p. 4.

2,819,525*l.*, but have been reduced by purchases on behalf of the Corporation to 2,694,679*l.* 17*s.* 11*d.*, and a considerable sum is also in hand towards their ultimate statutory liquidation.

II. Corporation Stock.—This is the largest sub-division of the debt, and consists of 3,650,000*l.*, 3½ per cent. stock, and 1,369,851*l.* 2*s.* 2*d.* 3 per cent. stock. The stock is redeemable at par in 1946 and 1947, and provision is made for such redemption by means of a sinking fund. The present price of the 3½ per cent. stock is 121*l.*, and of the 3 per cent. 107*l.*[2]

III. Mortgages.—These amount to 1,043,364*l.* 5*s.* 9*d.*, and are mainly repayable at short notice at varying rates of interest, and form a convenient local security. For the convenience of small investors, a system of 10*l.* mortgages has been instituted, and 67,740*l.* is now invested in them.

These three items—annuities, stock, and mortgages—together form the corporate debt, with the exception of certain advances made out of the loans fund in lieu of further borrowing, under the provisions of a recent statute. The annuities represent the balance of the purchase moneys of the gas and water undertakings, while other sanctioned loans of the Corporation are allocated to Corporation stock or mortgages, as may be most convenient, having regard to the amount and period for repayment of the particular loan.

It will be observed that there is a discrepancy between the amount given above as the net debt of the Corporation, 7,861,615*l.* 2*s.* 11*d.*, and the aggregate of the outstanding liabilities, which amount to 8,825,635*l.* 5*s.* 10*d.*, the difference being 964,020 2*s.* 11*d.* The explanation is as follows:—The former represents the amount that will eventually have to be provided out of the income of the Corporation for the liquidation of the debt; and the latter, the gross indebtedness, a large portion of which is already provided for by investments and cash in hand, namely:—

	£	*s.*	*d.*
Investments of loans fund with local authorities, viz., the Guardians of the parish of Birmingham, the Birmingham School Board, and the Birmingham, Tame, and Rea District Drainage Board....	399,782	19	2
Balance of amount owing by the same authorities in respect of moneys raised by the Corporation for their requirements....	337,039	12	7
Cash in the hands of the treasurer on capital and sinking fund accounts....	227,197	11	2
	964,020	2	11

It now becomes necessary to consider the component parts of the net debt as respects the purposes for which it was incurred.

From an analysis of the outstanding liabilities of the Corporation on the 31st March, 1894, contained in the Treasurer's "Blue Book,"

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[2] "Times," 17th April, 1895.

p. 4, it would appear that the total net debt of 7,861,615*l.* may be thus subdivided:—Municipal and Improvement Accounts, 2,129,706*l.*; Dwelling House Improvement Fund, 1,521,790*l.*; Gas Department, 1,811,559*l.*; and Water Department, 2,398,559*l.*

It is with the first of these items that the ratepayers of Birmingham are mainly concerned, representing as it does the amount of outstanding debt incurred by the Corporation both as a municipal and sanitary authority in the carrying out of the public service of the city. For the present we may dismiss the three latter items with these remarks, that the annual deficiency on the dwelling house improvement fund is more than balanced by the profits of the gas department, while the water department also pays its way with a small margin of profit, and has never been any burden upon the ratepayers. Taken together, these three undertakings are self supporting, and their history will be dealt with in detail in their proper order. Returning to the first item, the debt on general municipal and improvement account, it will be observed that it amounts roughly to about one year's ratcable value of the city, viz., 2,129,706*l.*, as against 2,194,500*l.* Some of the expenditure, notably that for market purposes, is remunerative, but the great bulk of the debt has been incurred in discharge of various municipal and sanitary obligations, very necessary and desirable in the interest of the city, but not directly remunerative.

The following is the best analysis that can be made of the component items:—

City of Birmingham.—*Outstanding Debt of the Corporation on Municipal and Improvement Accounts*, 31*st March*, 1894.

	£	*s.*	*d.*	£	*s.*	*d.*
Remunerative works—						
Markets	186,148	15	-			
Cemetery	18,184	8	4			
Tramways	150,036	7	10			
				354,369	11	2
Unremunerative works—						
Municipal buildings (the Council House, Victoria Courts, and Town Hall)	298,715	11	1			
Police stations and prisons	20,137	15	9			
Lunatic asylums	137,788	2	2			
Libraries, museums, school of art, and technical school	126,771	16	10			
Street improvements, paving	374,569	12	11			
Sewerage works	271,150	14	5			
Sewage disposal works	73,635	–	1			
Baths	45,464	9	9			
Parks	69,024	4	11			
Hospitals for infectious diseases	33,135	9	4			
Fire brigade	20,794	4	6			
Widening and cleansing streams	60,990	4	6			
Miscellaneous	243,159	4	10			
				1,775,336	11	1
				2,129,706	2	3

In return for this large expenditure, the ratepayers of Birmingham are in possession of the following property:—

Remunerative.

1. The various markets of the city, consisting of (*a*) the Market Hall, occupied as a general market, and the vaults underneath, used for cold stores; (*b*) the wholesale (covered) vegetable market; (*c*) the open Smithfield Market, cattle, horses, hay, straw, &c.; (*d*) the covered dead meat market; (*e*) the wholesale (covered) fish market; and (*f*) Montague Street and Bordesley Street pig markets. The Corporation have lately purchased a site for a new dead meat market and slaughter houses, at a cost of 40,000*l.*,

CITY OF BIRMINGHAM.—*Particulars*

Company to whom Leased.	Route.	Length in Miles of Single Line.		Certified Cost.		
		Miles.	Chains.	£	s.	d.
Birmingham and Aston Tramways Company	Old Square to Aston	2	4·2	6,702	17	9
Birmingham and Midland Tramways	Summer Row to city boundary in Dudley Road	3	34·7	17,654	12	11
Birmingham and Western Districts Tramways Company	Heath Street..............................	–	62·4	3,701	14	4
Birmingham Central Tramways Company	Albert Street to Nechells Park Road; Aston Street to Saltley Road; Corporation Street to Newtown Row; Station Street to Moseley Road; Fazeley Street to Moat Row; Kyott's Lake Road; Bradford Street to Camp Hill and Stratford Road; Rea Street to Coventry Road	15	40·5	80,697	18	4
	Station Street, Hill Street, Hurst Street, Bromsgrove Street, Lower Hurst Street, Sherlock Street, and Gooch Street; Sherlock Street and Benacre Street; John Bright Street and Station Street	2	68·8	16,357	–	9
	Colmore Row to Hockley Brook (cable)	2	53·6	13,648	1	–
	Navigation Street to Bournbrook (electric)...............	5	45·6	26,593	–	–
	Great Hampton Row and Wheeler Street	–	66·2	4,301	1	10
		33	56·0	169,656	6	11

Note.—In addition to the payments above specified, each company pays the actual Birmingham and Aston Tramways Company, which pays a fixed sum of 205*l.* per annum, by the Birmingham Central Tramways Company.

and buildings estimated to cost 70,000*l.* are now in course of erection. The profits from markets have amounted to as much as 5,000*l.* per annum, but the present profit is considerably less, owing to the recent capital expenditure, much of which has not yet become remunerative.

2. The city cemetery, consisting of 103 acres of freehold land at Witton. A small profit is made on this account.

3. The tramways. Over 33 miles have been constructed and leased to four companies at rentals equivalent to 4 per cent. on the cost of construction during the first fourteen years, and 5 per cent. during the last seven years. The companies are further required to contribute to a sinking fund, as shown in the accompanying table :—

of Tramway Leases.

Deposits made with Corporation for securing fulfilment of Leases.	Rent first Fourteen Years, Four per Cent.	Rent last Seven Years, Five per Cent.	Annual Sinking Fund Payment during Whole Term.	When Lease expires.
£ *s.* *d.*	£ *s.*	£ *s.*	£ *s.*	
2,725 – –	410 –	615 –	—	30th December, 1903
8,585 5 –	706 4	882 15	505 13	1st July, 1906
1,890 – –	148 1	185 2	116 16	”
38,765 12 6	3,227 18	4,034 18	2,311 6	1st January, 1907
7,196 17 6	654 6	817 17	474 7	”
6,691 – –	545 18	682 8	390 18	30th June, 1911
13,942 4 9	1,063 14	1,329 13	761 13	”
1,984 7 6	172 1	215 1	123 4	”
81,780 7 3	6,928 2	8,762 14	4,683 17	

cost of repairing its tramways, as certified by the city surveyor, with the exception of the
plus a varying amount in respect of wear occasioned by the use of a portion of its lines

The principles that have governed the recent policy of the Corporation as regards tramways may be stated as follows:—

1. The Corporation must maintain direct and complete control of their streets—hence they must construct and repair the tramways by themselves or by contractors under them.

2. The rates should not contribute towards the support of the tramways or be saddled with any loss.

3. The Corporation should make no profit out of the tramway concessions during the first fourteen years of the leases, but the public should have advantages in cheap travelling and efficient service.

Unremunerative.

The Corporation own the Town Hall, built by their predecessors the Street Commissioners, the Council House, the Victoria Courts, Judges' House, and other buildings. There are five principal police stations, four sub-divisional stations, and five sub-stations; there is one central fire brigade station, three sub-stations, and fourteen points at which firemen are placed on duty. There are two lunatic asylums. The streets of the city are about 260 miles in length, and 6 miles are paved with wood, and on tramway routes about 4½ miles are paved partly with wood and partly with macadam. The libraries are on a most extensive scale. There is a central free reference library, containing 120,000 volumes, and ten free lending libraries in different parts of the city. In 1893 the issue of books from the latter exceeded one million. There are two art galleries and museums, the central and principal adjoining and forming part of the Council House, the other at Aston Hall. The former contains an extensive and varied collection of modern pictures, besides a valuable collection of arms, metal work, and other exhibits. The attendance at the Central Art Gallery is extraordinary, about 800,000 persons per annum, more than 7,000,000 admissions having been recorded since its opening in December, 1885. Both galleries are free, and open on Sundays. *School of Art.*—There is one central school of art, situate in Margaret Street, near the Council House, and 14 branch schools in various parts of the city. The number of students in 1894 was 1,112 at the central school, and 2,424 at the branch schools, making a total of 3,536. *Technical School.*—Under the provisions of the Technical Instruction Act, the council established a technical school in 1891. Temporary premises were leased from the Birmingham and Midland Institute. The number of students in the session of 1893-94 was 1,528. A new school is now in course of erection, at a cost of 12,388*l.* for the site, and 76,170*l.* for the building and equipment. *Sewers.*—There are 264 miles of sewers within the city, the sewage being treated at the sewage farm of the Birmingham, Tame, and Rea District Drainage Board, containing about 1,200 acres. Birmingham contributes ¾ths of the expenses of this Board. A large quantity of refuse is also treated at Montague Street Wharf, and other wharves within the city.

Baths.—There are four public bathing establishments within the city, and two open-air swimming baths. *Parks.*—There are fourteen parks, gardens, and recreation grounds, some of them of considerable extent, and containing in the whole about 264 acres. There is also a recreation ground belonging to the Corporation, comprising 82 acres, on the Lickey Hills, about 9 miles from the city, and easily approached by railway. *Isolation Hospitals.*—These are two in number, one for scarlet fever, and one for small-pox. *Industrial school.*—There is an industrial school at Shustoke, about 12 miles from Birmingham, with accommodation for 150 boys. In addition to the above, there are a large number of buildings belonging to the town, consisting of storehouses, stables, and other requirements for the public service, and the Corporation also own certain properties in different parts of the town acquired from time to time for street improvements.

Dwelling House Improvement Fund.

Turning now to the other heads of capital account, the dwelling-house improvement fund, created under the Artizans' and Labourers' Dwellings Act and Order, has been a great cost to the Corporation; but the results have amply justified the expenditure. Opportunity was taken in the inception of the scheme to combine a great street improvement with the more strictly sanitary requirements of the Act. The following is a short account of the financial aspect of the scheme at 31st March, 1894:—

Dwelling House Improvement Scheme at 31*st March*, 1894.

	£	*s.*	*d.*
Net expenditure on general capital account	1,541,453	14	3
„ artizans' dwellings	18,000	–	–
Deficiency on revenue account, accumulated during the years 1880-92, now capitalised	117,011	7	10
Total net expenditure on capital account	1,676,465	2	1

The loans for the above have been borrowed for sixty years, with the exception of the 18,000*l.* expended on the erection of the artizans' dwellings. This has been borrowed partly for forty and partly for fifty years.

An amount is provided from income each year for the repayment of these loans, sufficient to repay the whole within the periods for which they have been borrowed. The amount set aside for this purpose last year was 13,476*l.*, and the total amount so provided since the commencement of the scheme is 154,674*l.*; this sum deducted from the net capital expenditure as above, leaves the present liability in respect of the undertaking at 1,521,791*l.*

In return for this large expenditure the Corporation are now in possession of an income from well secured ground rents amounting to about 36,000*l.* per annum, which will be further increased during the next four years (without any new lettings) to over 38,000*l.* per annum, but from this figure must be deducted a rent charge of 3,000*l.* payable in respect of property acquired from the trustees of the King Edward VI Grammar School, leaving the net income from ground rents at 35,000*l.* per annum.

A rental of about 19,000*l.* per annum is also being derived from the shops, houses, and other buildings still standing on the improvement area, and after deducting 4,000*l.* from this item in respect of rates, repairs, and other outgoings, a net income is available from this source of about 15,000*l.* per annum.

There is also a considerable area of cleared land still unlet in and near Corporation Street, which is at present producing no rental, but it is estimated that this will bring in sooner or later a further income of about 3,000*l.* per annum. On the other hand, interest on loans, sinking fund charges and management expenses entail a total outgoing of about 69,000*l.* per annum, which is 21,000*l.* in excess of the present income, as illustrated below, viz.:—

	£	£	£
Interest and other charges			69,000
Ground rents..	36,000		
Less grammar school rent charges........	3,000		
		33,000	
Rent of premises	19,000		
Less outgoings	4,000		
		15,000	
			48,000
Deficiency............................			21,000

This deficiency has to be provided from the rates, and since the scheme was initiated in 1876, the following sums have been taken from the rates for this purpose:—

	£	s.	d.	
In 1876	460	–	5	
„ '77	6,147	7	2	
„ '78	15,000	–	–	
„ '79-86	20,000	–	–	per annum
„ '87-89	25,000	–	–	„
„ three months to 31st March, 1890	3,250	–	–	
„ March, 1891-92	25,000	–	–	per annum
„ „ '93	23,050	–	–	
„ „ '94	21,700	–	–	

This annual deficiency on revenue account will be reduced during the next four years (by the increases in the ground rents before referred to) to about 19,000*l.*, and a further reduction will take place as the vacant land becomes let; but there must always be a considerable deficiency to be charged to the rates until the bulk of the loans are paid off, about forty-seven years hence. The undertaking will then be free of charge, and the whole of the net rental income of say 53,000*l.* per annum can be carried to the credit of the funds of the city.

This income will be further increased some fifteen years later by the expiration of the leases which are for seventy-five years, and the consequent reversion to the Corporation of the valuable land with the costly buildings which have been erected thereon in Corporation Street and the adjoining thoroughfares. It is difficult to form even an approximate estimate so far ahead of what this increase will amount to, but if no great change takes place in the value of property in the city during the interval, it may be safely assumed that the Corporation will then be in possession of a clear income of over 100,000*l.* per annum from the scheme.

It is interesting to see how this amount compares with the capital sum that would be arrived at by an investment of the annual instalments voted from the rates at 3 per cent. compound interest, and the following table has been prepared with this object:—

Dwelling House Improvement Fund. Capitalised Value of the Annual Instalments voted from the Rates. (3 *per Cent.*)

	£				£
1876	460	×	5·89160310	=	2710·13742600
'77	6,147	×	5·72000301	=	35160·85850247
'78	15,000	×	5·55340098	=	83301·01470000
'79	20,000	×	5·39165144	=	107833·02880000
1880	20,000	×	5·23461305	=	104692·26100000
'81	20,000	×	5·08214859	=	101642·97180000
'82	20,000	×	4·93412485	=	98682·49700000
'83	20,000	×	4·79041247	=	95808·24940000
'84	20,000	×	4·65088590	=	93017·71800000
'85	20,000	×	4·51512320	=	90308·46400000
'86	20,000	×	4·38390602	=	87678·12040000
'87	25,000	×	4·25621944	=	106405·48600000
'88	25,000	×	4·13225188	=	103306·29700000
'89	25,000	×	4·01189503	=	100297·37575000

Dwelling House Improvement Fund. Capitalised Value—Contd.

	£				£
1890*	25,000	×	3·89504372	=	97376·09300000
'91	25,000	×	3·78159584	=	94539·89600000
'92	23,050	×	3·67145227	=	84626·97482350
'93	21,700	×	3·56451677	=	77350·01390900
'94	20,500	×	3·46069589	=	70944·26574500
'95	20,500	×	3·35989893	=	68877·92806500
'96	20,500	×	3·26203779	=	66871·77469500
'97	20,000	×	3·16702698	=	63340·53960000
'98	19,000	×	3·07478348	=	58420·88612000
'99	19,000	×	2·98522668	=	56719·30692000
1900	19,000	×	2·89827833	=	55067·28827000
'01	18,000	×	2·81386245	=	50649·52410000
'02	18,000	×	2·73190530	=	49174·29540000
'03	18,000	×	2·65233524	=	47742·03432000
'04	17,000	×	2·57508276	=	43776·40692000
'05	17,000	×	2·50008035	=	42501·36595000
'06	17,000	×	2·42726247	=	41263·46199000
'07	16,000	×	2·35656551	=	37705·04816000
'08	16,000	×	2·28792768	=	36606·84288000
'09	16,000	×	2·22128901	=	35540·62416000
1910	16,000	×	2·15659127	=	34505·46032000
'11	16,000	×	2·09377793	=	33500·44688000
'12	16,000	×	2·03279411	=	32524·70576000
'13	16,000	×	1·97358651	=	31577·38416000
'14	16,000	×	1·91610341	=	30657·65456000
'15	16,000	×	1·86029457	=	29764·71312000
'16	16,000	×	1·80611123	=	28897·77968000
'17	16,000	×	1·75350605	=	28056·09680000
'18	16,000	×	1·70243306	=	27238·92896000
'19	16,000	×	1·65284763	=	26445·56208000
1920	16,000	×	1·60470644	=	25675·30304000
'21	16,000	×	1·55796742	=	24927·47872000
'22	16,000	×	1·51258972	=	24201·43552000
'23	16,000	×	1·46853371	=	23496·53936000
'24	16,000	×	1·42576089	=	22812·17424000
'25	16,000	×	1·38423387	=	22147·74192000
'26	16,000	×	1·34391638	=	21502·66208000
'27	16,000	×	1·30477318	=	20876·37088000
'28	16,000	×	1·26677008	=	20268·32128000
'29	16,000	×	1·22987387	=	19677·98192000
1930	16,000	×	1·19405230	=	19104·83680000
'31	16,000	×	1·15927407	=	18548·38512000
'32	16,000	×	1·12550881	=	18008·14096000
'33	16,000	×	1·09272700	=	17483·63200000
'34	16,000	×	1·06090000	=	16974·40000000
'35	16,000	×	1·03000000	=	16480·00000000
					£3,025,293

* The odd three months to 31st March, 1890, are ignored.

Note.—In this calculation it is assumed that a year's interest has become due on each instalment at the end of each year, but, as a matter of fact, the instalment is received from the treasurer in two amounts, viz., half at June and half at Christmas; so that nine months' interest has accrued on half of the annual instalment, and three months on the other half, instead of twelve months on the whole.

It will be seen that if the 100,000*l.* per annum, the ultimate estimated rental, is capitalised at 3 per cent., and the necessary deduction made for the difference in date at which the full benefit accrues, the result is nearly identical with the 3,000,000*l.* of the above table, and that the scheme will have in fact formed a kind of savings bank for the benefit of posterity, while the sacrifice made by the present ratepayers has had its reward in the street improvements, increased rateable value, vastly improved sanitary condition of the area, involving a greatly decreased death-rate, and the impetus that has been given by the construction of the new streets to the trade of the city, and the general circulation of money occasioned by the improvements.

Gas Department.

The gas undertaking has from the commencement been a magnificent success. On 1st January, 1876, the Corporation acquired by purchase the gas undertakings of the Birmingham and Birmingham and Staffordshire Gas Companies, both having previously supplied gas within the borough, and the latter also in a large outside area. The Birmingham Company was incorporated in 1819, having then purchased the works and mains of an earlier private undertaking.

The Birmingham and Staffordshire Company obtained its first Act in 1825, stating its object to be the lighting of "the con-"tinuous line of the great Holyhead Road from Birmingham to "Bilston," and the "towns in its vicinity."

At the time of the negotiations for the purchase by the Corporation, the Birmingham Company had recently passed through a period of serious mismanagement and losses, but the Birmingham and Staffordshire Company was in a highly prosperous state, paying maximum dividends alike on the capital expended in the supply of the thickly populated portion of Birmingham and in that of the wide-spreading and partly rural districts surrounding the borough.

The negotiations with the Birmingham Company were first concluded; one of the terms of the agreement providing that the Corporation should not apply for parliamentary powers to complete the purchase, without applying at the same time for powers to complete an agreement for purchase of the undertaking of the Birmingham and Staffordshire Company.

It was foreseen that the purchase of the outside supply forming part of the Staffordshire undertaking would probably provoke opposition on the part of the local authorities surrounding Birmingham, and at the outset an endeavour was made to purchase for the Corporation the supply within the borough only. This proving to be impossible, an agreement was ultimately concluded for the purchase of the whole undertaking.

The complete undertaking thus to be acquired included the supply in Birmingham, and in seventeen parishes outside the borough, containing some of the busy manufacturing towns of the Staffordshire iron district. Measured on the map, as the crow flies, the authorised area of supply was 20 miles from extreme north to south, and 16 miles from extreme east to west. There were then five manufacturing stations, three within the borough, and two outside, one of these some 7 miles away in Staffordshire.

The Bill promoted by the Corporation was opposed by seven of the outside local authorities, and during the proceedings in Parliament, agreements were made with the Corporation of Walsall for the immediate re-sale to them of the portion of the supply within that borough, and with the local authorities of two of the largest parishes adjoining the borough of Birmingham, fixing the terms on which they at any time subsequent to the passing of the Act could acquire the supply in their respective districts. The two last named agreements have not been acted on, but are still in force.

Endeavours were also made to induce the other four opposing authorities, whose districts, with two others, adjoined each other and surrounded the Staffordshire manufacturing station, to form a joint board for the acquisition of those works, and the right of supply in the six parishes. These negotiations were unsuccessful, and power was ultimately given in the Act to local authorities outside Birmingham to purchase, within a limited time, the supply within their respective districts.

The four opposing local authorities availed themselves of this power; portions of the other outside districts have since been included within the city boundaries, and some small modifications of the area of supply have been made in subsequent Acts of Parliament. It now includes the city of Birmingham and ten parishes outside the city. It is, measured on the map as the crow flies, 17 miles from extreme north to south, and 10 miles from extreme east to west. 561 miles of mains are laid over this area for 14 miles from north to south, and 10 miles from east to west. There are four manufacturing stations: three within the present city, and one in Staffordshire, the smallest in the borough having been abandoned since the purchase.

The capital of the two companies at the time of the agreement for purchase was:—

	Capital Raised.	Capital Outlay.
	£	£
Birmingham	386,876	346,615
,, and Staffordshire............	680,781	618,746

The terms of purchase were, in brief, for the undertaking of the Birmingham Company, 450,000*l.* (including reserve fund of 6,017*l.*); and for that of the Birmingham and Staffordshire Company, perpetual annuities of 58,290*l.*, being the aggregate maximum dividends payable by the company on their share capital of 320,400*l.* and 350,000*l.* at 10 and 7½ per cent. respectively.

The following tables have been prepared to show the financial position and working of the undertaking, under the management of the Corporation:—

		Companies.	Corporation.		
		31st December, 1875.	31st December, 1876.	31st March, 1893.	31st March, 1894.
		£	£	£	£
Capital expended	Total amount	2,000,931	2,084,530	2,230,340	2,227,164
„ employed	„	2,076,165	2,112,686	2,324,997	2,324,997
		£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
	Per ton of coal carbonised	7 – 3	7 1 1	4 19 10	5 1 9
	Per 1,000 cubic feet of gas sold	– 17 10	– 17 8	– 11 7	– 11 9
		Tons.	Tons.	Tons.	Tons.
Coal carbonised	—	296,000	299,396	465,562	457,109
		Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
Gas made	Total	2,565,013,000	2,649,542,000	4,338,575,000	4,222,087,000
	Per ton of coal carbonised	8,666	8,858	9,319	9,236
		Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
Gas sold and used on works	—	2,327,596,800	2,386,566,000	4,064,472,000	3,989,248,000
Percentage of gas unaccounted for	—	9·26	9·92	6·82	5·51
		s. *d.* *s.* *d.*	*s.* *d.* *s.* *d.*	*s.* *d.* *s.* *d.*	*s.* *d.* *s.* *d.*
Prices of gas, subject to 5 per cent. discount for prompt payment	Private lighting....	3 – to 3 6	2 9 to 3 3	2 3 to 2 7	2 3 to 2 7 2 6 „ 2 10
		s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	Public lamps.......	3 –	2 9	1 1	1 2¼
		s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Average net price of gas	—	3 1·38	2 10·60	2 2·70	2 3·55
Mileage of mains ...	—	597	Not recorded	555	561
Number of consumers...............	—	60,582	61,007	57,534	58,053
Number of public lamps	—	8,732	8,981	14,139	14,701
Number of consumers per mile of main	—	101	—	104	103
		Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
Gas sold per consumer	—	38,420	39,120	66,037	63,760
		Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
Gas sold per mile of main	—	3,898,822	—	7,243,000	7,034,000
		£	£	£	£
Reserve fund	—	—	24,389	100,000	100,000
Sinking „	—	—	3,832	395,414	415,606

Corporation.

	Year ended 31st December, 1876.					Year ended 31st March, 1893.					Year ended 31st March, 1894.				
	Amount.	Per Ton of Coal Carbonised.		Per 1,000 Cubic Feet Sold.		Amount.	Per Ton of Coal Carbonised.		Per 1,000 Cubic Feet Sold.		Amount.	Per Ton of Coal Carbonised.		Per 1,000 Cubic Feet Sold.	
Income.	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*
Gas	344,144	22	11·87	2	10·60	450,067	19	4·32	2	2·57	455,925	19	11·61	2	3·43
Residuals	118,682	7	11·14	–	11·94	117,836	5	0·82	–	6·96	135,295	5	11·10	–	8·14
Sundries	5,368	–	4·30	–	0·54	2,989	–	1·54	–	0·17	2,412	–	1·26	–	0·14
Total	468,194	31	3·31	3	11·08	570,892	24	6·68	2	9·70	593,632	25	11·97	2	11·71
Expenditure.															
Coal	211,599	14	1·62	1	9·28	262,060	11	3·27	1	3·47	260,724	11	5·03	1	3·69
Manufacturing charges	73,313	4	10·77	–	7·36	120,981	5	2·45	–	7·14	139,351	6	1·24	–	8·38
Distribution	32,101	2	1·73	–	3·23	33,711	1	5·40	–	1·99	36,861	1	7·37	–	2·22
Management	9,528	–	7·64	–	0·95	9,376	–	4·84	–	0·55	8,849	–	4·65	–	0·53
Rent, rates, and taxes	10,471	–	8·39	–	1·06	16,592	–	8·56	–	0·98	19,824	–	10·42	–	1·19
Bad debts	3,805	–	3·05	–	0·39	660	–	0·34	–	0·04	859	–	0·45	–	0·05
Sundries	4,095	–	3·28	–	0·41	5,505	–	2·85	–	0·33	3,878	–	2·03	–	0·23
Annuities and interest	85,327	5	8·40	–	8·58	94,041	4	0·54	–	5·55	94,517	4	1·67	–	5·69
Sinking fund	3,833	–	3·07	–	0·39	—		—		—	4,217	–	2·21	–	0·25
Reserve „	4,122	–	3·31	–	0·41	—		—		—	—		—		—
Public purposes	30,000	2	0·05	–	3·02	27,966	1	2·43	–	1·65	24,552	1	0·90	–	1·48
Total	468,194	31	3·31	3	11·08	570,892	24	6·68	2	9·70	593,632	25	11·97	2	11·71

Reviewing briefly the foregoing tables, the following are the principal points of interest we find in them.

The capital employed is arrived at throughout by capitalising the annuities at twenty-five years' purchase. For the purposes of the sinking fund their capitalised value was to be ascertained under the Act of Parliament at twenty years' purchase, but the larger figure was adopted by the Corporation as an act of prudence. Even this foresight would have been insufficient, the market value of annuities to-day being about thirty-three years' purchase, but that the parliamentary provision for their redemption has been largely exceeded. Under this provision a sinking fund of about 105,000*l.* should have been provided to 31st March, 1894, for their redemption. The actual amount so provided by the Corporation has been to that date 415,000*l.*

On the 31st December, 1875, the date of the transfer, the capital expended, including the capital value of annuities of 58,290*l.* so ascertained, was 2,000,931*l.* Of this amount 927,116*l.* represented the goodwill of the undertaking. On the 31st March, 1894, the capital expended, including the capitalised value of outstanding annuities of 54,039*l.*, was 2,267,164*l.*, an increase of

13½ per cent., while the sale of gas had increased in the same period by 71 per cent.

The amount received for the portion of the undertaking sold since the transfer and applied in the extension of the manufacturing works is about 200,000*l.*

The actual increase of 266,233*l.* in the capital expended includes a large expenditure on additional land available for further extensions, and in the erection of new offices, the upper portion of which is devoted to the use of the Corporation Museum and Art Gallery. The value of these additions alone cannot be less than 125,000*l.*

The amount of capital employed per ton of coal carbonised has been brought down from 7*l.* –*s.* 3*d.* per ton in 1875 to 5*l.* 1*s.* 9*d.* in 1894, and this figure compares favourably with the average capital of the London Companies, which is 5*l.* 17*s.* 5*d.*

Against the present capital account of 2,324,997*l.*, a sinking fund of 415,606*l.*, and a reserve fund of 100,000*l.* have been accumulated.

The income and expenditure and manufacturing accounts for the year ended 31st March, 1894, were largely affected by the prolonged coal strike, necessitating the use of inferior as well as abnormally costly coal, and also by the necessity for increasing for a portion of the year the prices of gas; a temporary increase, which has since been withdrawn.

For these reasons the comparisons of the results of working will be made with the more, though not quite, normal year ended 31st March, 1893.

The cost of coal, less residuals, in 1876 was 6*s.* 2·48*d.*; in 1893 6*s.* 2·45*d.* The difference, however, in this net cost of the raw material per 1,000 cubic feet of gas sold was 1·8*d.* This arises from the larger production and sale of gas per ton of coal carbonised in 1893 as compared with 1876, the make of gas per ton having been increased by 461 cubic feet, and a saving of 3·62 per cent. having been made in the gas unaccounted for. This last named saving is attributable to the amalgamation, rearrangement, and simplification of the distributing system of the two companies in the few years following the transfer; and to the close attention given to the maintenance of meters.

The cost of manufacture had remained practically at the same figure in 1893 as in 1876. But in 1893 the year was not in this respect a normal one, the customary provision for depreciation of plant not having been made owing to the stress arising from the high prices paid for coal in that year.

The manufacturing wages, included in this item, were also practically the same per ton of coal carbonised in both these years.

Economies had been effected by the introduction of labour saving apparatus between 1876 and 1888, which had resulted in a reduction of this charge by about 9*d.* per ton of coal carbonised, but this saving was neutralised by the change to the 8 hours' system of working in 1888.

It will be seen from the tables that while the savings on manufacture have only amounted in the period to 1·8*d.*, the price of gas was reduced by 8·03*d.* per 1,000 cubic feet sold.

The chief differences which have resulted in this end are:—

	d.
Saving on distribution charges	1·01
" management	0·42
" bad debts	0·34
" annuities and interest	2·92
Difference on sinking and reserve funds, and amount appropriated to public purposes	2·35
	7·04

against which has to be placed the differences in receipts from sundries, attributable to the decreased yield from the sale of gas fittings. This diminished income is due to the care exercised by the Corporation not to enter into competition with private traders, a forbearance which was not exercised by the gas companies.

The increased cost of rates and taxes in 1894 will show a further growth in the current year, and is threatening, by the tendency to force upwards the assessments of trading concerns, to become a serious burden on gas consumers.

The comparison in the cost of management is only very slightly affected by the amalgamation of the service of the two companies, the principal economies in this respect having been effected at the end of 1875. Nor have these economies been followed by inefficiency. They are mainly due to more effective organisation, and to a change by which gas consumers pay their accounts at the central and other offices of the Corporation, and the expensive system of collection and its attendant book-keeping has been dispensed with.

The remarkable increase in the gas sold per consumer in 1893 as against 1876 is no doubt principally due, first, to the sale of some districts in which the residential supply formed the greater proportion of the consumption, and, second, to the large increase in recent years in the use of gas for heating and manufacturing purposes.

It may be noted that of the total sale of 4,064,000,000 cubic feet of gas in the year ended 31st March, 1893, the sale within the present city boundaries was 3,192,000,000 cubic feet.

The growth of the undertaking, as shown by the quantity of gas sold, number of consumers, &c., has been much greater, area for area, than is shown by the tables. Excluding the areas sold, and those added since 1876, the true comparison is—

	1876.	1894.
Consumption of gas .... cubic feet	1,995,833,700	3,981,932,000
Number of consumers	50,185	57,903
" public lamps	7,285	14,701

The total amount paid to the credit of public purposes from the profits of the undertaking in the eighteen years it has been in the hands of the Corporation has been 515,000*l.* The tax on the consumer for interest, sinking fund, public purposes, &c., is about 7½*d.* per 1,000 cubic feet sold. In London the amount distributed by the three companies in dividends, addition to reserve funds, &c., amounts to more than 1*s.* per 1,000 cubic feet sold.

Water Department.

The water undertaking is in a transitional state. Hitherto it has been managed so as to be neither a source of profit nor loss, in order to give the benefit of a copious supply of pure water to the city and neighbourhood at as nearly as possible cost price. Now, however, that the demands of an increasing population have necessitated a recourse to a distant source of supply, the old prices have been raised nearly to the maximum, in order to build up a special water fund to assist in paying the interest and ultimately the sinking fund on the new capital. This new capital will probably amount to nearly 4,000,000*l.* in the course of the next ten years.

The water department of the Corporation of Birmingham was established on 1st January, 1876, by the purchase of the undertaking of the company of proprietors of the Birmingham Waterworks.

That company was incorporated by Act of Parliament in the year 1826, the purpose specified in the Act being "the supplying "with water of the town and neighbourhood of Birmingham."

The capital was fixed at 120,000*l.*, with power to borrow 30,000*l.* more.

The source of supply was the River Tame only, and a storage reservoir capable of containing 30 million gallons was constructed at Aston. The water from the Tame was turned into this reservoir on the 17th August, 1831. The further initial works of the company were two engines at Aston and a storage reservoir in Monument Lane, Edgbaston, having a capacity of 4¼ million gallons.

The town of Birmingham was incorporated in the year 1838, and the new Corporation appear to have almost from the commencement entertained the idea of acquiring the water works undertaking.

In 1851 the Birmingham Improvement Act was passed, and included a clause which empowered the Corporation to supply water to the borough, and to purchase the works of the company at a price to be fixed by arbitrators or by a jury.

In the year 1853, the capital of the company being exhausted, it was determined to apply to Parliament for additional powers, and in 1854, before the proceedings in Parliament on the Bill, the Corporation gave notice under their Act of 1851 to purchase the undertaking, and in addition opposed the Company's Bill, both in the Commons and in the Lords.

The Bill however became law on the 2nd June, 1854. By it the authorised capital of the company was raised to 240,000*l.*, and the borrowing powers to 60,000*l.*

The Act recited the notice of the Corporation of their intention to purchase, and enacted that for three years after the passing of the Act notice of new works proposed to be executed by the company should be given to the borough surveyor, who might disapprove, and in case of disagreement between the company and the Corporation, the Board of Trade was made umpire.

It further provided that if the Corporation purchased the undertaking within two years from the date of the notice given in March, 1854, the new shares authorised should be estimated as a stock entitled only to 6 per cent. per annum.

In consequence of the poisoning of the Tame in September, 1854, the supply of water to the town was entirely cut off for some days, and the necessity for a further source of supply was brought home to the directors. With this object they obtained a further Act in 1855. By this Act the capital was increased to 420,000*l.*, and the borrowing powers to 105,000*l.* With the additional capital authorised, and under the powers conferred by the new Act, the works of the undertaking were immediately extended by the construction of additional reservoirs at Witton, impounding the waters of the Perry stream and the Hawthorn brook or Witton stream.

The works of the company were further extended from time to time under the powers of the Acts already obtained, and in 1865 the company applied to Parliament for additional powers. They were unsuccessful, and in reporting the matter to the shareholders, the directors stated that they had withdrawn the Bill in consequence of part of their scheme being refused by the House of Lords on opposition from Sutton Coldfield.

Another Bill was brought forward in 1866, and passed on the

11th of June of that year. By it the area of supply was considerably extended, and the authorised capital was increased to 756,000*l.* and the borrowing powers to 189,000*l.* Prior to the passing of this Act the Company had made preliminary borings on their land at Aston with a view to the construction of a deep well. This marks a new departure in the history of the water supply of the town, and from this date the directors turned their attention to obtaining supplies from deep wells, which were sunk successively at Aston, as stated above, King's Vale, Perry, and Witton—now called Short Heath.

The last Act obtained by the Birmingham Water Works Company became law on the 14th July, 1870. The directors in reporting it to the shareholders said, "the Bill was opposed by the "Birmingham Town Council both before the House of Lords and "the House of Commons, but notwithstanding this determined and "costly opposition, the Bill passed into law without any change "being made by Parliament in the scheme proposed by the "directors."

By this Act the authorised capital was not altered, but the area of supply was extended. The chief features of it, however, were powers for the construction of new works, which included an additional well at Selly Oak, a storage reservoir at Erdington, and the extensive works at Whitacre and Shustoke for impounding the waters of the rivers Blythe and Bourne. The Act provided that the water from the rivers should be carefully filtered, and power was given to the Town Council to appoint an inspector to test the quality of the water.

In 1872 a small reservoir at Whitacre was completed, and the water of the Blythe was brought into use; part of the land was purchased for the large reservoir, and also for the proposed well at Selly Oak; and in 1874 the land for the storage reservoir at Erdington was purchased.

This practically completes the history of the undertaking as the property of the Birmingham Water Works Company, and at the close of 1875 the capital account of that company stood as under :—

	Capital.	Borrowing Powers.
	£	£
Authorised by Act of 1826	120,000	30,000
" '54	120,000	30,000
" '55	180,000	45,000
" '66	336,000	84,000
	756,000	189,000
The amounts actually raised being	671,975	189,000

Under the Act of 1870 and the previous Acts the area of supply of the Birmingham Water Works Company was as under:—

Under the Act of 1826—

Birmingham.
Edgbaston.
Aston.
Duddeston.
Duddeston-cum-Nechells.

Under the Act of 1866—

King's Norton.
Yardley.
Harborne, except so much thereof as is situate in the Township or Hamlet of Smethwick.

Under the Act of 1870—

Northfield.
Handsworth, in case of agreement with the South Staffordshire Water Works Company.

In the year 1874 the Town Council instructed their General Purposes Committee to prepare a Bill for the transfer by agreement or for the compulsory purchase of the undertaking of the Water Works Company, and at the same time authorised the committee to negotiate terms for the purchase of the undertaking.

In bringing forward the proposal, Mr. Joseph Chamberlain, then the mayor of the town, urged the advisability of the acquisition of the undertaking by the municipality as a matter of public policy rather than one of finance.

The directors had previously declined to negotiate for the sale of their undertaking, and on the Bill being laid before Parliament they offered a strenuous opposition.

The Bill became law on the 2nd August, 1875. It provided that the Corporation might within three years after the passing of the Act require the company to sell their undertaking at a consideration to be agreed upon, or, in default of agreement, to be settled by arbitration, and that each shareholder should receive payment by way of perpetual annuities. The annuities were charged on the revenue of the undertaking, aided, if necessary, by the rates. After five years a sinking fund was to be established to provide a sum sufficient for the extinguishment of the annuities, or sufficient to yield interest to meet the charge, within ninety-five years of the passing of the Act. A reserve fund was also to be provided limited to 50,000*l.*, and the surplus, if any, of revenue after making these provisions was to be carried to the borough fund, together with the annual proceeds of the reserve fund when that fund amounted to 50,000*l.*

The transfer was effected in consideration of 54,491*l.* in perpetual annuities, made up as under:—

£	
33,600	Being 8 per cent., or the maximum dividend, on 420,000*l.* capital issued under the Act of 1855.
17,640	Being 7 per cent., or the maximum dividend, on 252,000*l.* capital subsequently issued and called up.
2,376	In respect of possible profit on capital authorised but not called up.
875	As compensation for back dividends unpaid.
54,491	Total in perpetual annuities.

The Corporation took over the company's mortgage debt of 189,000*l.*

Assuming the annuities to be capitalised at twenty-five years' purchase, the consideration was equal to 1,362,275*l.*, and comprised a premium, or goodwill, of 690,275*l.*

The capital of the undertaking at the time of the transfer to the Corporation was thus 1,362,275*l.*, plus the mortgage of 189,000*l.*, making 1,551,275*l.*

The transfer was effected on 1st January, 1876. The management of the undertaking then devolved on the Town Council, who appointed a committee of their number to deal with it. The Water Committee carried out certain works initiated by the company, and made considerable extensions of mains, and the Corporation and other local authorities took steps, under the recently passed Public Health Act of 1875, to close polluted wells, and thus compelled the owners of properties which were without satisfactory water supplies to lay on water from the Corporation mains.

The revenue of the undertaking during the year 1875, the last before the transfer, was 87,350*l.*, and it had advanced to the sum of 127,504*l.* by the year 1882, notwithstanding that in the year 1881 reductions of water rents to the extent of 5,000*l.* per annum had been made.

At the end of 1882 the reserve fund was made up out of profits to the sum of 50,000*l.*, as required by the Act of 1875, and the interest on that fund has since been paid over to the borough fund.

The Town Council decided in February, 1883, that the sum of 6,500*l.*, beyond the interest on the reserve fund, from the profits of the undertaking in that year should be carried to the borough fund. This practice has not been repeated, as in the year 1883 large reductions were made in the water rents, and further reductions in the year 1884, so that for some years subsequently the accounts of the department showed a loss.

The Act of 1875 authorised the raising of 250,000*l.* additional capital, 100,000*l.* of which was authorised subject to the approval of the Local Government Board.

The extensions of mains and construction of other works quickly exhausted the capital powers of the Corporation on water account, and as the increasing demand for water required the construction of further works, it was deemed expedient to renew the powers for the construction of the works at Shustoke for impounding the waters of the Bourne, which powers had been obtained by the late company, but had lapsed by effluxion of time.

Accordingly, in 1879, the Corporation obtained an Act renewing the powers for the construction of the works at Shustoke, and authorising the borrowing of an additional amount of 300,000*l.*, bringing the authorised capital of the department up to 2,101,275*l.*

By the Birmingham Corporation Consolidation Act, 1883, the area of supply was extended by the inclusion of Curdworth, Coleshill, Sheldon, Elmdon, Church Bickenhill, and Solihull, making up in all an area comprising 129¾ square miles, and extending 15¼ miles from north to south and 14½ miles from east to west.

The area of supply at the present time comprises a population estimated at 736,000. The population actually supplied by the Corporation is estimated at 650,000. The number of houses in supply on the 31st March, 1894, was 128,573, in addition to 9,436 miscellaneous unmeasured supplies for trade and sundry purposes other than domestic. There were also at that date 2,481 supplies by meter for trade purposes.

The daily demand for water continued to increase, so that in the year ended 31st March, 1891, it amounted to 16,820,000 gallons per day as against 8,300,000 in 1876, being more than double the quantity.

The engineering advisers of the Corporation were by the increasing demand led to apprehend that in the near future the sources of supply would become insufficient, and after full inquiry the Act of 1892 was applied for, which obtained the Royal Assent on the 27th June in that year. By it the Corporation are empowered to obtain a supply of water, practically inexhaustible, from the rivers Elan and Claerwen, in Radnorshire.

The capital authorised under this Act is 6,600,000*l.*, and the works in connection with the Elan supply are now under construction.

At 31st March, 1894, the capital account of the department stood thus:—

	Amounts Borrowed and Expended, and Liability on Annuities.	Total Amount Authorised.
	£	£
Under the Acts of 1875 and 1879	2,093,536	2,098,423
" Act of 1892	350,366	6,600,000
	2,443,902	8,698,423

The average daily consumption during the year ended 31st March, 1894, was 16,427,000 gallons.

Rating.

Table A (pp. 350 and 351) is a statement of the rates made by the Council from 1852 to the 31st March, 1894, showing the different heads of expenditure, and including the precepts of the school board and the drainage board.

The city of Birmingham being situate in five parishes and three poor law unions, the amount of poor rate is not a uniform one throughout the city, and two of the new districts included in the city by an extension Order of 1892 have a differential rating, namely, the districts of Saltley and Little Bromwich, extending in the former case for ten years, and in the latter for twenty years from the date of their inclusion within the city.

It is interesting to note that, if the school board and drainage board precepts are omitted, the strictly municipal rates for which the Town Council is responsible are not materially higher than they were thirty years previously (1864 3*s.* 8*d.*, 1894 3*s.* 8·05*d.*), notwithstanding the vast expenditure that has taken place. This is, of course, due to the increased rateable value of the city, the profits of the industrial undertakings, and the contributions from the imperial exchequer.

The final Table (K) shows the prospect of relief to posterity as the existing loans are paid off out of the sinking funds already provided.

In this paper it will be observed that I have confined myself almost entirely to the charges on capital account. It would of course be impossible within the limits at my disposal to deal with the whole of the income and expenditure of the Corporation in all its departments, but the general result will be gathered from the tables of rating in the different parishes within the city, and a copy of the Treasurer's Blue Book for 1894, showing the whole receipts and expenditure of the Corporation, has been placed in the Society's library for reference by any members who may desire further information on the subject.

CITY OF BIRMINGHAM.–

TABLE A.—*Rates made by the Council*

[From the year 1890 the financial year of the

1 Year.	2 Borough Rate (Council Rate exclusive of Free Libraries).		3 Free Libraries.	4 Art Gallery and Museum and School of Art.	5 Technical School.	6 Relief of Technical Instruction from Exchequer Contribution Account.	7 School Board.
	s.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
1852	1	6	—	—	—	—	—
'53	1	3	—	—	—	—	—
'54	1	5	—	—	—	—	—
'55	-	10	—	—	—	—	—
'56	1	4	—	—	—	—	—
'57...	1	4	—	—	—	—	—
'58	1	5	—	—	—	—	—
'59...........	1	2	—	—	—	—	—
1860...........	-	11	1	—	—	—	—
'61...	1	2	—	—	—	—	—
'62	1	2½	-½	—	—	—	—
'63...........	1	5	—	—	—	—	—
'64	1	4	1	—	—	—	—
'65...........	1	3	1	—	—	—	—
'66...........	1	2	1	—	—	—	—
'67...........	1	2	1	—	—	—	—
'68...........	1	2	1	—	—	—	—
'69..........	1	1	1	—	—	—	—
1870....	1	0·5	1	—	—	—	—
'71	1	0·3	1	—	—	—	0·6
'72...........	1	1·8	1	—	—	—	1
'73...........	1	5·5	1	—	—	—	2·7
'74...........	1	5	1	—	—	—	3
'75...........	1	7 8	1	—	—	—	3
'76...........	1	4·5	1	—	—	—	3·5
'77...........	1	6·8	1	—	—	—	6·2
'78...........	1	0·1	1	—	—	—	7·9
'79...........	1	2 5	1	—	—	—	7·2
1880	1	3·4	1	—	—	—	6·3
'81..........	1	3·9	1	—	—	—	6·6
'82	1	3·1	1	—	—	—	7·5
'83...........	1	2·16	1	—	—	—	8·36
'84...........	1	2·4	1·23	—	—	—	8·19
'85...........	1	3·48	1·79	—	—	—	8·14
'86...........	1	3·54	1·29	0·77	—	—	7·5
'87...........	1	3·32	1·24	0·74	—	—	8·15
'88..........	1	3·59	1·27	0·89	—	—	8·80
'89..........	1	4·18	1·29	0·92	—	—	9·40
1890*	-	3·04	0·27	0·24	—	—	3·06
'90-91	1	1·89	1·31	1·03	—	—	9·63
'91-92	1	2·53	1·37	1·04	0·53	—	10·40
'92-93	1	3	1·41	0·89	0·11	1·12	11·47
'93-94	1	2·82	1·50	0·73	—	1·10	11·95

* Three months ended 31st March.

STATEMENT OF RATES.

from 1852 *to* 31*st March*, 1894.

Corporation ended on the 31st March.]

8 United Drainage Board.	9 Total Borough Rate.	10 Improvement Rate.	11 Street Improvement Rate.	12 Total Council Rates (exclusive of School Board and Drainage Board)	13 Aggregate (including School Board and Drainage Board).	Year.
d.	*s. d.*	*s. d.*	*d.*	*s. d.*	*s. d.*	
—	1 6	2 –	—	3 6	3 6	1852
—	1 3	2 –	6	3 9	3 9	'53
—	1 5	2 –	—	3 5	3 5	'54
—	– 10	2 –	—	2 10	2 10	'55
—	1 4	2 –	—	3 4	3 4	'56
—	1 4	2 –	2	3 6	3 6	'57
—	1 5	2 –	2	3 7	3 7	'58
—	1 2	2 –	2	3 4	3 4	'59
—	1 –	2 –	2	3 2	3 2	1860
—	1 2	2 –	2	3 4	3 4	'61
—	1 3	2 –	—	3 3	3 3	'62
—	1 5	2 –	2	3 7	3 7	'63
—	1 5	2 –	3	3 8	3 8	'64
—	1 4	2 –	3	3 7	3 7	'65
—	1 3	2 –	2	3 5	3 5	'66
—	1 3	2 –	2	3 5	3 5	'67
—	1 3	2 –	2	3 5	3 5	'68
—	1 2	1 11	1	3 2	3 2	'69
—	1 1½	2 –	2	3 3·5	3 3½	1870
—	1 2	1 11	2	3 2·3	3 3	'71
—	1 3¾	2 –	2	3 4·8	3 5¾	'72
—	1 9¼	2 –	1¾	3 8·3	3 11	'73
—	1 9	2 –	1¾	3 7·8	3 10¾	'74
—	1 11¾	2 3	1¼	4 1·5	4 4½	'75
—	1 9	2 –	1	3 6·5	3 10	'76
—	2 2	2 2	—	3 9·8	4 4	'77
4	2 1	2 2	1	3 4·1	4 4	'78
2·8	2 1½	2 1	–½	3 5	4 3	'79
2·8	2 1½	2 1	–½	3 5·9	4 3	1880
2·5	2 2	2 –½	–½	3 5·9	4 3	'81
3·4	2 3	2 1	—	3 5·1	4 4	'82
3·48	2 3	2 –	1	3 4·16	4 4	'83
3·68	2 3½	2 1½	Rate abolished	3 5·13	4 5	'84
3·59	2 5	2 –		3 5·27	4 5	'85
3·4	2 4½	2 –½		3 6·1	4 5	'86
3·55	2 5	2 –		3 5·3	4 5	'87
3·45	2 6	2 –		3 5·75	4 6	'88
3·21	2 7	1 11		3 5·39	4 6	'89
0·89	– 7½	—		– 3·55	– 7½	1890*
3·14	2 5	2 1		3 5·23	4 6	'90–91
3·13	2 7	2 –		3 5·47	4 7	'91–92
3·12	2 8	2 3		3 8·41	4 11	'92–93
3	2 8	2 3		3 8·05	4 11	'93–94

* Three months ended 31st March.

TABLE B.—PARISH OF BIRMINGHAM. *Poor Rates and Borough Rates*, 1852 *to* 1893.

1 Year	2 Amount in the £.	3 Total Poor Rate for each Year.	4 Borough Rate as in Table A.	5 Relief of the Poor and Cost of Collection, &c., of Whole Rate.	6 Year.	7 Amount in the £.	8 Total Poor Rate for each Year.	9 Borough Rate as in Table A.	10 Relief of the Poor and Cost of Collection &c., of Whole Rate.
	s. d.	*s. d.*	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*	*s. d.*
1852	2 – 2 –	4 –	1 6	2 6	1873	2 – 2 –	4 –	1 9¼	2 2¾
'53....	1 6	1 6	1 3	– 3	'74	2 – 1 10	3 10	1 9	2 1
'54	2 – 2 – 2 –	6 –	1 5	4 7	'75	2 – 2 –	4 –	1 11¾	2 –¼
'55	2 – 1 6	3 6	– 10	2 8	'76	2 – 1 8	3 8	1 9	1 11
'56	2 – 2 –	4 –	1 4	2 8	'77	2 9 1 8	4 5	2 2	2 3
'57	2 – 2 –	4 –	1 4	2 8	'78	2 3 1 10	4 1	2 1	2 –
'58	2 – 2 –	4 –	1 5	2 7	'79	2 6 2 2	4 8	2 1½	2 6½
'59	2 – 1 6	3 6	1 2	2 4					
					1880	2 8 2 4	5 –	2 1½	2 10½
1860	2 – 1 –	3 –	1 –	2 –	'81	2 4 2 2	4 6	2 2	2 4
'61	1 6 2 –	3 6	1 2	2 4	'82	2 4 2 2	4 6	2 3	2 3
'62	2 6 2 6	5 –	1 3	3 9	'83	2 4 2 4	4 8	2 3	2 5
'63	2 – 2 –	4 –	1 5	2 7	'84	2 4 2 4	4 8	2 3½	2 4½
'64	2 6 2 –	4 6	1 5	3 1	'85	2 4 2 6	4 10	2 5	2 5
'65	2 6 2 4	4 10	1 4	3 6	'86	2 4 2 4	4 8	2 4½	2 3½
'66	2 6 2 6	5 –	1 3	3 9	'87	2 4 2 2	4 6	2 5	2 1
'67	2 – 2 –	4 –	1 3	2 9	'88	2 2 2 2	4 4	2 6	1 10
'68	2 – 2 4	4 4	1 3	3 1	'89	2 2 2 6	4 8	2 7	2 1
'69	2 2 2 –	4 2	1 2	3 –					
					1890	2 4 1 11	4 3	3 –½	1 2½
1870	1 6 1 8	3 2	1 1½	2 –½	'91	2 – 2 2	4 2	2 7	1 7
'71	1 8 1 6	3 2	1 2	2 –	'92	2 2 2 2	4 4	2 8	1 8
'72	1 6 1 8	3 2	1 3¾	1 10¼	'93	2 3 2 3	4 6	2 8	1 10

TABLE C.—PARISH OF ASTON (*Hamlets of Deritend and Bordesley and Duddeston and Nechells*). *Poor Rates and Borough Rates*, 1852-93.

1 Year.	2 Poor Rate. Amount in the £.		3 Borough Rate. Amount in the £.		4 Total for each Year.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
1852	–	5	1	11	2	4
'53	–	7½	1	8	2	3½
'54	–	10	Nil		–	10
'55	Nil		1	8	1	8
'56	–	7½	1	–½	1	8
'57	–	7½	1	8	2	3½
'58	–	7½	1	8	2	3½
'59	–	7½	1	8	2	3½
1860	Nil		1	6	1	6
'61	–	7½	1	3	1	10½
'62	–	7½	1	5	2	–½
'63	Nil		1	5	1	5
'64	–	7½	1	7	2	2½
'65	–	7½	3	4	3	11½
'66	–	7½	Nil		–	7½
'67	–	7½	1	8	2	3½
'68	–	7½	1	8	2	3½
'69	1	3	1	10½	3	1½
1870	–	7½	1	5	2	–½
'71	–	10	1	5	2	3
'72	–	10	1	8	2	6
'73	1	2	2	3	3	5
'74	–	10	2	2	3	–
'75	1	–	2	4	3	4
'76	–	8	2	2	2	10
'77	–	10	2	6	3	4
'78	–	10	2	6	3	4
'79	–	10	2	6	3	4
1880	–	10	2	6	3	4
'81	–	10	2	9	3	7
'82	–	10	2	10	3	8
'83	–	10	2	10	3	8
'84	–	10	2	10	3	8
'85	–	10	3	–	3	10
'86	–	9	3	–	3	9
'87	–	9	3	–	3	9
'88	–	10	3	–	3	10
'89	–	10½	3	–	3	10½
1890	1	–½	2 1	3 4	4	7½
'91	–	11½	1 1	5 8	4	–½
'92	–	9½	1 1	6 8	3	11½
'93	–	10	1 1	6 8	4	–

TABLE D.—PARISH OF ASTON (*Hamlet of Saltley and Washwood*).

Poor Rates and Borough Rates, 1892-93.

1 Year.	2 Poor Rate. Amount in the £.		3 Borough Rate. Amount in the £.		4 Total for each Year.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
1892	–	9½	1 1	– 2	2	11½
'93	–	10	1 1	– 2	3	–

TABLE E.—PARISH OF ASTON (*Hamlet of Little Bromwich*).

Poor Rates and Borough Rates, 1892-93.

1 Year.	2 Poor Rate. Amount in the £.		3 Borough Rate. Amount in the £.		4 Total for each Year.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
1892	–	9½	– –	6 8	1	11½
'93	–	10	– –	6 8	2	–

TABLE F.—PARISH OF EDGBASTON. *Poor Rates and Borough Rates*, 1852-93.

2 Amount in the £.	3 Total Poor Rate for each Year.	4 Borough Rate as in Table A.	5 Relief of the Poor and Cost of Collection &c., of Whole Rate.
s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
1 3 – 9	2 –	1 6	– 6
1 – – 6	1 6	1 3	– 3
1 – 1 –	2 –	1 5	– 7
1 –	1 –	– 10	– 2
– 10 1 3	2 1	1 4	– 9
1 – 1 –	2 –	1 4	– 8
1 – 1 2	2 2	1 5	– 9
1 – – 10	1 10	1 2	– 8
– 10 – 10	1 8	1 –	– 8
– 10 1 –	1 10	1 2	– 8
1 – – 10	1 10	1 3	– 7
1 6 1 3	2 9	1 5	1 4
1 – 1 –	2 –	1 5	– 7
1 – – 10	1 10	1 4	– 6
1 – 1 –	2 –	1 3	– 9
– 10 1 –	1 10	1 3	– 7
1 – 1 3	2 3	1 3	1 –
1 3 1 –	2 3	1 2	1 1
1 – 1 –	2 –	1 1½	– 10½
1 – 1 1	2 1	1 2	– 11
1 1 1 4	2 5	1 3¾	1 1¼

6 Year.	7 Amount in the £.	8 Total Poor Rate for each Year.	9 Borough Rate as in Table A.	10 Relief of the Poor and Cost of Collection &c., of Whole Rate.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
1873	1 0 1 4	2 4	1 9¼	– 6¾
'74	1 2 1 3	2 5	1 9	– 8
'75	1 7 1 4	2 11	1 11¾	– 11¼
'76	1 8 1 –	2 8	1 9	– 11
'77	2 2 1 4	3 6	2 2	1 4
'78	1 4 1 6	2 10	2 1	–
'79	1 7 1 7	3 2	2 1½	1 –½
1880	1 6 1 6	3 –	2 1½	– 10½
'81	1 8 1 8	3 4	2 2	1 2
'82	1 8 1 8	3 4	2 3	1 1
'83	1 6 1 8	3 2	2 3	– 11
'84	1 7 1 8	3 3	2 3½	– 11½
'85	1 11 1 8	3 7	2 5	1 2
'86	1 7 1 9	3 4	2 4½	– 11½
'87	1 11 1 8	3 7	2 5	1 2
'88	1 11 1 11	3 10	2 6	1 4
'89	1 8 1 8	3 4	2 7	– 9
1890	1 8 1 7	3 3	3 –½	– 2½
'91	1 9 1 10	3 7	2 7	1 –
'92	1 11 1 10	3 9	2 8	1 1
'93	1 10 1 10	3 8	2 8	1 –

TABLE G.—PARISH OF KING'S NORTON. *Poor Rates and Borough Rates,* 1892-93.

1 Year.	2 Poor Rate. Amount in the £.	3 Borough Rate. Amount in the £.	4 Total for each Year.
	s. *d.*	*s.* *d.*	*s.* *d.*
1892................	– 6	1 8	4 4
	– 6	1 8	

1 Year.	2 Amount in the £.	3 Total Poor Rate for each Year.	4 Borough Rate as in Table A.	5 Relief of the Poor, and Cost of Collection, &c., of whole Rate.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
1893....	2 2	4 2	2 8	1 6
	2 –			

TABLE H.—PARISH OF HARBORNE. *Poor Rates and Borough Rates,* 1892-93.

1 Year.	2 Amount in the £.	3 Total Poor Rate for each Year.	4 Borough Rate as in Table A.	5 Relief of the Poor, and Cost of Collection, &c., of whole Rate.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
1892....	2 –	3 10	2 8	1 2
	1 10			
'93. ..	2 –	3 11	2 8	1 3
	1 11			

Table J.—*Showing Total Amount of Rates in the £ in each Parish within the City, from* 1852 *to* 1893.

1	2	3	4	5	6	7	8
		Parish of Aston.					
Year.	Parish of Birmingham.	Deritend, Bordesley, Duddeston, and Nechells.	Saltley and Washwood.	Little Bromwich.	Parish of Edgbaston.	Parish of King's Norton.	Parish of Harborne.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1852	6 –	4 4	—	—	4 –	—	—
'53	4 –	4 9½	—	—	4 –	—	—
'54	8 –	2 10	—	—	4 –	—	—
'55	5 6	3 8	—	—	3 –	—	—
'56	6 –	3 8	—	—	4 1	—	—
'57	6 2	4 5½	—	—	4 2	—	—
'58	6 2	4 5½	—	—	4 4	—	—
'59	5 8	4 5½	—	—	4 –	—	—
'60	5 2	3 8	—	—	3 10	—	—
'61	5 8	4 –½	—	—	4 –	—	—
'62	7 –	4 –½	—	—	3 10	—	—
'63	6 2	3 7	—	—	4 11	—	—
'64	6 9	4 5½	—	—	4 3	—	—
'65	7 1	6 2½	—	—	4 1	—	—
'66	7 2	2 9½	—	—	4 2	—	—
'67	6 2	4 5½	—	—	4 –	—	—
'68	6 6	4 5½	—	—	4 5	—	—
'69	6 2	5 1½	—	—	4 3	—	—
'70	5 4	4 2½	—	—	4 2	—	—
'71	5 3	4 4	—	—	4 2	—	—
'72	5 4	4 8	—	—	4 7	—	—
'73	6 1¾	5 6¾	—	—	4 5¾	—	—
'74	5 11¾	5 1¾	—	—	4 6¾	—	—
'75	6 4¾	5 8¾	—	—	5 3¾	—	—
'76	5 9	4 11	—	—	4 9	—	—
'77	6 7	5 6	—	—	5 8	—	—
'78	6 4	5 7	—	—	5 1	—	—
'79	6 9½	5 5½	—	—	5 3½	—	—
'80	7 1½	5 5½	—	—	5 1½	—	—
'81	6 7	5 8	—	—	5 5	—	—
'82	6 7	5 9	—	—	5 5	—	—
'83	6 9	5 9	—	—	5 3	—	—
'84	6 9½	5 9½	—	—	5 4½	—	—
'85	6 10	5 10	—	—	5 7	—	—
'86	6 8½	5 9½	—	—	5 4½	—	—
'87	6 6	5 9	—	—	5 7	—	—
'88	6 4	5 10	—	—	5 10	—	—
'89	6 7	5 9½	—	—	5 3	—	—
'90	6 4	6 8½	—	—	5 4	—	—
'91	6 2	6 –½	—	—	5 7	—	—
'92	6 7	6 2½	5 2½	4 2½	6 –	6 7	6 1
'93	6 9	6 3	5 3	4 3	5 11	6 5	6 2

Note.—The aggregate rates in the £ levied in the parishes of Birmingham, Edgbaston, and Harborne during any year may be arrived at by adding together the amounts in Cols. 10 and 11 of Table A (improvement and street improvement rates for each year) and the amount in either of Cols. 3 or 8 in Tables B and F, or Col. 3 in Table H, the total poor rate for each year, which includes the borough rate. In Aston, both the old area and the new included areas of Saltley and Little Bromwich and in King's Norton, the borough and poor rates are shown separately, and, if the amounts in Col. 4 of Tables C, D, E, or G are added to Cols. 10 and 11 of Table A, the aggregate rates in the £ in these districts will be arrived at.

TABLE K.—*Showing prospect of Relief to Posterity as Loans are Paid off out of Sinking Funds.*

	£	£	£
Total charge for interest and sinking fund for the year ending 31st March, 1894	—	—	387,065
Add—			
Sinking funds charges now suspended	—	3,216	—
Interest and sinking fund on new loans already negotiated	—	1,762	—
			4,978
			392,043
Relief in five years to 1900	4,924	—	387,119
" 1905	24,583	—	362,536
" 1910	21,932	—	340,604
" 1915	30,859	—	309,745
" 1920	13,277	—	296,468
" 1925	18,876	—	277,592
" 1930	2,569	—	275,023
" 1935	940	—	274,083
" 1940*	55,866	—	218,217
" 1945*	30,625	—	187,592
" 1950	8,557	—	179,035
" 1955	15,347	—	163,688
" 1960†	75,221	—	88,467
" 1965	10,535	—	77,932
" 1970†	77,032	—	900
" 1975	—	—	900
" 1980	100	—	800
" 1985	800	—	—

* In these years the bulk of the loans created for the purpose of the dwelling house improvement scheme will be discharged.

† In these years the sinking funds for the gas and water annuities terminate.

DISCUSSION *on* MR. ORFORD SMITH'S PAPER.

MR. W. PENN-LEWIS said that it was difficult to criticise the paper without fuller information. It appeared that the rates levied were practically the same now as they were thirty years ago, but it would be a great advantage to know the relative receipts in the shape of profit from the industrial undertakings and the moneys contributed by the Imperial Exchequer. He would also have liked to see some comparison between these receipts and those for other large municipalities, and how far local authorities had benefited from the funds contributed by the Imperial Exchequer. He had lately had occasion to examine these, and he had been much impressed by the fact that the burden of rates had been alleviated by such aids to a greater extent in rural than in urban districts. In his own borough (Richmond) he found that they lost nearly 3*d.* in the £ because of the mode adopted for the distribution of Imperial grants. He could only hope that at some future time Mr. Smith might give them a paper including information on these points.

Sir **RAWSON W. RAWSON** said that it was unfortunate that the author of the paper was absent, as he would doubtless have been able to furnish much additional information. His own impression was that Mr. Smith had intentionally confined himself to showing that the citizens had gained by undertaking the management of the gas, water, and tramways, and he thought the author had proved his case. If the citizens had obtained all these advantages without any increase in the rates during the past thirty years, it had been a very good speculation for them.

Mr. **A. H. BAILEY** said that he could not very well understand the table of the statement of rates on p. 351. In the thirteenth column the aggregate rate was 4*s.* 11*d.* in 1893-94, but he found columns 9 and 10 (borough rate and improvement rate) made up the 4*s.* 11*d.* without any of the other columns. The School Board rate had also increased from nothing to 1*s.*, and he did not see where that came in. One further criticism he would offer, and that was that in dealing with statistics it was not well to go to eight places of decimals; it would be better to avoid the decimals altogether.

Mr. **F. HENDRIKS** said it was quite clear that the gas consumer using gas manufactured by the Corporation of Birmingham did not get it supplied on better terms than the London gas consumer, using gas manufactured by the great London companies. The prices of 2*s.* 3*d.* to 2*s.* 10*d.* per 1,000 feet, quoted in Mr. Smith's figures for 1893-94, abundantly proved this. On the other hand, it might be alleged in opposition that if, in the city of Birmingham, the gas consumer seemed to pay as much as in London, it was not really so, as something came back to the Birmingham consumer in the form of relief to his payment of rates, the Corporation having made a profit in eighteen years (1876-94) of 515,000*l.* carried to credit of public purposes. It was not stated whether these purposes were clearly of a kind for which the Birmingham citizens could legally have been rated. Assuming for the moment that they were so, the gas profits seemed to have given an average relief to the Birmingham ratepayers, whether gas consumers or not, of under 30,000*l.* a year from the gas supplied to a population of now about half a million. It was by no means unlikely that if in London fair terms were made with the gas companies, ten times as great an annual profit might be made, or the price of gas to the London consumer very largely reduced. As regards water, there would appear from Mr. Smith's interesting statement, that the Birmingham supply yielded neither profit nor loss, the water being given as a first necessity of life on terms that seemed charitably to temper the wind to the shorn lamb, or, in other words, at cost price.

Mr. C. Fox hoped that the facts now laid before them would be utilised for comparison with other municipalities. The first province of statistics was to collect facts, the second to collate them, and it was in this comparison that their use and interest were found. He failed to gather whether the author regarded these facts so carefully and well laid before them as anomalous, and if so wherein, or whether, Birmingham should be regarded as a representative town; and whether its features would be of proportionate importance with itself, in the whole land. The library, he supposed, must be a large expense to the municipality rather than a gain, for the actual cost of books was a heavy item. As regarded the poor rate, he regretted that Mr. Smith had placed it in one column with the amount spent in collection, &c., for a very large proportion of the so-called poor rate, it was well known, unhappily, went to the officials. In his own union in Somersetshire, something like three-fifths only, he thought, went to the ostensible object for which the money was collected. It was interesting to find that the paper was able to conclude with a note of encouragement, in that, in spite of the vast expenditure, the rates were no higher now than they were thirty years ago. Birmingham did not, from their nature, indeed, obtain any remuneration from many of its great public works, but they were really beneficial—paying in higher ways by far—and should be encouraged in spite of money loss. They must expect a sacrifice to be attendant upon every good, and they must not be discouraged if their most laudable efforts resulted in a temporary deficit, having regard to the greatness of the object, and the gain in the end—or to the people's good.

Mr. F. **Debenham** said that it would be very useful if a comparison could be instituted between the working of these various undertakings by municipalities and by private enterprise. In some of these he thought the author had practically proved his case. It was a striking fact, for instance, that the consumers of gas in Birmingham paid only about 7½*d.* per 1,000 cubic feet for interest, sinking fund, &c., whereas 1*s.* had previously been paid to shareholders by way of dividend. But still more interesting would have been a comparison with regard to artizans' dwellings, for which Birmingham was famous, and in which Londoners were particularly interested at the present moment. He gathered that in Birmingham they had had to capitalise deficits in the revenue which left them with a debt of 171,000*l.* The possibility of a new municipality making artizans' dwellings pay in competition with private enterprise had not yet been proved. It was probable that, previous to the municipality undertaking the construction of these dwellings, they had not, in Birmingham, had the same advantages as in London of a large number of spirited private companies with practically unlimited capital. One or two municipal lodging-houses in London had not has yet proved themselves to be either better constructed or capable of returning a dividend of 3 per cent. Generally, the author had shown Birmingham to be well to the front in matters of municipal enterprise; and those who knew that town would be prepared to see a return for its enterprise in the general moral and intellectual benefits conferred on the inhabitants, without applying the comparatively narrow test of whether it had yielded a monetary profit.

Major P. G. Craigie said that the complexity of the areas included under the name of Birmingham was probably one cause of the difficulty in drawing generally applicable conclusions from the important collection of details contained in the paper. It was unfortunate certainly that they had not been able to trace the proportion of the aid given year by year by the State to the locality in relief of the pressure of local taxation. And again, what had been the economic results of this large municipal outlay, not merely in money, but in the improvement of health, the increase of business facilities, the reduction of pauperism, of death-rates, &c., if the effect could be shown in this way? He would have liked also to have seen enforced the essential difference in pressure, even at the same nominal rating per pound, of what was called a rate as levied in a great municipality and a rate as levied in a country district. The property on which the tax was levied, though all called real property, was essentially different as a measure of ability to pay in the two cases. He had seen in a return concerning Birmingham (union) the other day that, out of a rateable value of 1¼ millions, land represented not quite 1,000*l.* An analysis of the basis of the rates was required before they could realise the true meaning of an increase or decrease of rates on an area of this character.

The Chairman (Mr. C. S. Loch) said that in the paper that had been read they had hardly data sufficient to enable them to draw conclusions. With regard to the dwelling house improvement scheme, there had every year been a deficiency: any voluntary enterprise in a similar case would have become bankrupt. The concern was apparently kept going only by means of the rates. Taking for granted that the deficiencies made good from the rates would have to be made good by voluntary enterprise out of capital or in some other way, he would like to know what would be the actual annual interest on the total amount invested, when all the transactions were completed, and the future estimated income was payable. This future income was estimated at 53,000*l*.; but would contingencies arise in which pressure would be put on the municipality as landlord to keep the rents low? If so, a new factor might be introduced which might upset the calculations. Taking the case of gas, allowance must be made for the interest on the reserve fund and for profits. There had been an enormous development in all our large towns between the years mentioned, 1876 and the years 1893 and 1894; and apart from the fact of the provision of gas being in the hands of the municipality instead of conducted by voluntary enterprise, this would account for much of the increase in supply and relative reduction in cost. One would like to know if other municipalities, and if any gas companies in other places had done as much for their customers as had been done in Birmingham. And it would be instructive to compare the management of a well conducted gas company for the same twenty years to check the figures referred to. Further analysis might show that "the increased cost of rates and taxes," which "was threatening to become a serious burden on gas consumers," neutralised the advantages of the lower price charged on gas. Thus the inhabitants might merely be paying now as ratepayers what they formerly paid as gas consumers, and no real economy might in fact have resulted. It might be found also that the regulation of prices on a fixed scale by the municipality might have kept private enterprise, when possessed of a monopoly, within bounds, for in the case of the Birmingham gas companies before they were taken over, judging from the companies' net prices in 1875, it would appear that a large monopoly profit was being made by them. In regard to these municipal undertakings, generally, it was possible that the community might lose a considerable sum annually without the loss being apparent to the general body of the ratepayers, because the annual deficit would be made good by what would seem a comparatively small grant from the rates. There was no one in the position of the shareholder to look into the matter, and as local government became more complex, we might create by degrees a large and intricate machinery which it might be very difficult to control. One grave criticism made on the paper was that the enormous question of the Exchequer grants had been entirely ignored.

He hoped that the Society might hereafter have other papers on the subject, for it was most important that, when so many were devoting attention to public administration, they should be able to obtain through such a Society as this some authoritative statements on the subject. It would be difficult, but it might be possible, to have comparative municipal statements just as we had comparative mortality statistics. Municipalities which were large landlords might also be compared with others, so as to gain some idea of what would be the position of Birmingham, for instance, if it had been as large a landowner as Liverpool. Mr. Orford Smith's paper, as an historical description of the new *régime* of Birmingham, made a very useful introduction for further papers on the subject.

He concluded by proposing a very hearty vote of thanks to the author, which was carried unanimously.

In reply to the above discussion we have received the following from Mr. ORFORD SMITH:—

In briefly replying to the criticisms that have been made on my paper, I should like in the first place to state that I quite agree with Dr. Fox's definition of the two-fold province of statistics, and as the title of my paper—"Municipal Finance, or Local Taxation and Local Expenditure, as illustrated by the case of the City of Birmingham"—implies, my endeavour has been to collect and place upon record certain facts which are likely to be useful for the purposes of comparison, when similar facts in relation to other large municipalities have been obtained. In the absence of the latter, I have not ventured to classify the case of Birmingham as either "anomalous" or "representative," though I should think it would probably fall within the latter division. It is very possible that an amplification of some of the items would be found useful, and this seems to be particularly the case with regard to the receipts in aid from the Imperial Exchequer. I may at once supply this omission by stating that the grants in aid from that source prior to 1888 amounted to about 3¾*d.* in the £, while at the present time they are about 6½*d.* in the £. It must of course be understood that this does not include grants to Guardians of the poor, as with the exception of the tables showing the total rates levied in the several parishes, I am dealing only with the funds controlled by the Corporation. As I have no official connection with the Poor Law Authorities, I have not ventured to enter into the details of their administration. The receipts from the profits of industrial undertakings represent about 4½*d.* in the £.

Adverting to an observation that fell from Sir Rawson Rawson, it is a fact that the Corporation have acquired the undertakings of the gas, water, and tramways without any increase in the rates.

With reference to the table of rates alluded to by Mr. Bailey, it will be observed that Cols. 2, 3, 4, 5, 7, and 8 added together make the total of the borough rate in Col. 9. Col. 6 represents the further amount that would have had to be raised by rate if the same expenditure had been incurred, and there had been no grant from the Exchequer in aid of technical instruction.

I come now to the Dwelling-house Improvement Fund, with regard to which there seems to be much misconception in the minds of the speakers on the subject. It is evidently assumed that a very large outlay has taken place in the erection of artizans' dwellings, and that the future income of the scheme depends to a great extent upon the rents derived from such houses. This, however, is not the case, and the mistake is probably occasioned by the title of the fund, which follows the wording of the Artizans' and Labourers' Dwellings Improvement Act, 1875. The real purposes of this Act were to enable an urban authority to purchase and clear unhealthy areas, and as the result of this process in Birmingham has been to transform a neighbourhood formerly crowded with small houses, into large and wide thoroughfares, and upon which buildings of a high class have been erected, it was only necessary to accommodate the persons who were left upon the area under the new conditions.

As a matter of fact, only 18.000*l.* have been spent by the Corporation in the erection of artizans' dwellings, and the resulting rents from these houses not only pay interest and sinking fund on the money invested, but yield a substantial ground rent besides. Any reduction in the rents of the artizans' dwellings would make but little difference to the prospects of the scheme.

The other points raised by the various speakers relate chiefly to comparisons with other towns. The most important of these has reference to the gas undertaking. With regard to this, I may say that there already exists a valuable means of comparison between the working of the principal gas undertakings in the kingdom, whether owned by corporations or companies: this is an analysis compiled by Mr. J. W. Field, a publication always referred to and relied upon by Parliamentary and other tribunals. An examination of this analysis will make it evident that in Birmingham both consumers and ratepayers alike are benefited by the municipalisation of the gas supply as compared with those in London.

MISCELLANEA.

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I.—*Corn Prices*, 1800-61.

The following table affords a concrete instance of the extent to which an individual estate was affected by the fluctuations in the prices of wheat and barley during the years 1800 to 1861.

The estate under notice, until it was enfranchised in the last mentioned year, was held of the Dean and Chapter of Worcester under a lease on lives, subject, in addition to certain rights over the timber, to an annual payment of 480 bushels of wheat and 960 bushels of barley. These corn rents were reckoned as due, as regards barley on the 2nd February (Candlemas), and as regards wheat on the 23rd June, and the price was based on the prices ruling in Worcester market on the two preceding Saturdays. For instance, in 1860 the highest price of wheat in Worcester market on the 9th June was 7*s.* per imperial bushel, and on the 16th June 7*s.* 2*d.* In the same year, the highest price for barley on the 21st January was 4*s.* 8*d.*, and on the 28th January 4*s.* 7*d.* For purposes of the estate rental the prices were taken at 7*s.* per bushel of wheat, and 4*s.* 6*d.* per bushel of barley. In the accompanying table, the price has been raised from bushels—the ordinary local unit of measure—to quarters, in order to bring the return into line with the figures furnished by the Board of Agriculture. (*Corn Prices*, 1892 [1893; C–7059], pp. 26 and 27).

As might be expected, the price of wheat as well as of barley was, with few exceptions, higher in Worcester market on the average of the selected days than the average prices for the whole year throughout the United Kingdom. In 1819, while the average price of wheat of the year for the United Kingdom was 3*s.* 2*d.* higher than the computed price at Worcester, the price of barley was no less than 32*s.* 11*d.* lower. The divergence between the local and general prices was only in part reduced by the introduction of improved methods of communication.

The practical result was that the rent paid from year to year by the lessee varied enormously, reaching its highest point in 1801, when the price of barley was computed for estate purposes at the fabulous price of 5*l.* per quarter, and the total cash rent was 1104*l.* In 1804 the rent paid was but 316*l.*

Year.	England and Wales.				Worcester Market.				Estate.		Total Cash Paid.
	Average Price of Wheat per Quarter for Year.		Average Price of Barley per Quarter for Year.		Average Price of Wheat, 23rd June.		Average Price of Barley, 2nd February.		Cash Paid for 480 Bushels of Wheat.	Cash Paid for 960 Bushels of Barley.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	£	£	£
1800....	113	10	59	10	144	–	64	–	432	384	812
'01....	119	6	68	6	168	–	100	–	504	600	1,104
'02....	69	10	33	4	74	–	51	4	222	308	530
'03....	58	10	25	4	62	8	28	–	188	168	356
'04....	62	3	31	–	53	4	26	–	160	156	316
'05....	89	9	44	6	102	8	56	–	308	336	644
'06....	79	1	38	8	97	4	45	4	292	272	564
'07....	75	4	39	4	76	–	46	–	228	276	504
'08 ..	81	4	43	5	97	4	41	4	292	248	540
'09....	97	4	47	–	98	–	53	4	294	320	614
1810....	106	5	48	1	140	–	73	4	420	440	860
'11....	95	3	42	3	105	4	44	8	316	268	584
'12 ..	126	6	66	9	162	8	70	–	488	420	908
'13....	109	9	58	6	138	8	86	8	416	520	936
'14....	74	4	37	4	78	–	51	4	234	308	542
'15....	65	7	30	3	82	–	35	4	221	190	411
'16....	78	6	33	11	79	4	28	–	238	168	406
'17....	96	11	49	4	144	–	56	–	432	336	768
'18....	86	3	53	10	92	–	52	–	276	312	588
'19....	74	6	45	9	71	4	78	8	214	471	685
1820 ...	67	10	33	10	70	8	38	8	212	232	444
'21....	56	1	26	–	49	4	28	8	148	172	320
'22....	44	7	21	10	60	–	35	4	180	212	392
'23....	53	4	31	6	64	–	27	4	192	164	356
'24....	63	11	36	4	64	–	36	–	192	216	408
'25....	68	6	40	–	72	–	44	8	216	268	484
'26....	58	8	34	4	62	8	44	–	188	264	452
'27....	58	6	37	7	62	8	46	–	188	276	464
'28....	60	5	32	10	54	–	30	8	162	184	346
'29....	66	3	32	6	73	4	40	–	220	240	460
1830....	64	3	32	7	72	–	36	–	216	216	432
'31....	66	4	38	–	70	–	40	–	210	240	450
'32....	58	8	33	1	62	8	40	–	188	240	428
'33....	52	11	27	6	56	–	36	–	168	216	384
'34....	46	2	29	–	49	4	26	8	148	160	308
'35....	39	4	29	11	38	8	29	4	116	176	292
'36....	48	6	32	10	54	8	32	–	164	192	356
'37....	55	10	30	4	58	–	40	–	174	240	414
'38....	64	7	31	5	72	–	32	–	216	192	408
'39....	70	8	39	6	73	4	40	–	220	240	460
1840....	66	4	36	5	73	4	48	–	220	288	508
'41 ...	64	4	32	10	64	–	37	4	192	224	416
'42....	57	3	27	6	68	–	28	–	204	168	372
'43....	50	1	29	6	48	–	29	4	144	176	320*
'44...	51	3	33	8	60	–	32	–	180	192	372
'45....	50	10	31	8	45	4	40	–	136	240	376
'46...	54	8	32	8	58	–	30	8	174	184	358
'47...	69	9	44	2	94	–	54	8	282	328	610
'48. .	50	6	31	6	52	–	36	8	156	208	364
'49...	44	3	27	9	45	4	28	–	136	168	304

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* No account is taken of income tax, charged for the first time in 1843.

Year.	England and Wales.				Worcester Market.				Estate.		Total Cash Paid.
	Average Price of Wheat per Quarter for Year.		Average Price of Barley per Quarter for Year.		Average Price of Wheat, 23rd June.		Average Price of Barley, 2nd February.		Cash Paid for 480 Bushels of Wheat.	Cash Paid for 960 Bushels of Barley.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	£	£	£
1850....	40	3	23	5	40	–	24	–	120	144	264
'51....	38	6	24	9	44	8	24	–	134	144	278
'52....	40	10	28	6	43	4	30	–	130	180	310
'53....	53	3	33	2	48	8	32	–	141	192	333
'54....	72	5	36	–	80	–	46	8	240	280	520
'55....	74	8	34	9	77	4	37	4	232	224	456
'56....	69	2	41	1	73	4	38	8	220	232	452
'57....	56	4	42	1	64	–	52	–	192	312	504
'58....	44	2	34	8	42	8	37	4	128	224	352
'59....	43	9	33	6	51	4	36	8	154	220	374
1860....	53	3	36	7	56	–	36	–	168	216	384
'61....	55	4	36	1	55	4	41	4	41*	163*	204*

* Rent calculated to the date of enfranchisement in 1861.

II.—*Remarks on and Suggestions for a Decimal Currency.*

It may be in the memory of some, a minority now, that the first two shilling coin had on its face the inscription "one-tenth of a pound."

There are some in circulation now, but a later issue discontinued this inscription. If I remember rightly, it was said at the time that the late Prince Consort suggested the idea as a first step towards a decimal coinage, and a way of familiarising the public with, and in anticipation of, a decimal currency.

Be that as it may, we know that although the public took to the coin as a very convenient one, they did not show any sign of having realised the step it was towards, or any desire to help in establishing, a decimal currency and coinage.

Although, I believe, earlier in the century, some suggestions were made similar to those now put forward, they do not appear to have received any active support, but if I am not mistaken, the opinion now, although perhaps somewhat latent, is much more general in favour of the change, if it could be brought about without any great disturbance of the existing coinage.

In the few words in this short paper I propose to endeavour to show how I think it might be done, both in a way that would be difficult to carry out, and also in a way very easy of accomplishment, and by first following somewhat the example alluded to above.

A decimal currency is possible in at least two ways:—

One of them needs to be stated only to at once demonstrate the possibility, but also the impracticability of it, and thus clear the ground for the other, which I think both possible and practicable.

The first would consist in increasing the number of standard farthings in the £ from 960 to 1,000, the standard weight being 43·75 grains each.

This would increase the standard of the sovereign by 10*d.*, or 5·13643 grains standard weight, and would require, if adopted, that all debts and credits should be reduced and written down by 4 per cent. to compensate for the increased value and purchasing power of the sovereign, and it would raise also the par of the foreign exchanges.

The case has only to be stated, hardly thought over, to be dismissed as impracticable, even if possible.

The second would consist of the same increase from 960 to 1,000, but substituting 1,000 of 42 grains weight for the 960 of present standard weight of 43·75 grains, which leaves the aggregate weight the same.

Take the sixpence as an example. It will be found that the 24 farthings of which it consists equal exactly at 43·75 grains, 25 farthings at 42 grains each.

The intrinsic value of the £ sterling is unaffected, whether you consider it to contain 960 farthings at 43·75 grains each, or 1,000 at 42 grains each, but the difference arises when the aliquot parts are to be expressed in farthings of 42 grains each, which hitherto have been expressed in farthings of 43·75 grains each. The change is entirely a domestic one, not affecting the foreign exchanges.

As the change is confined entirely to the aliquot parts of the standard sovereign—the shillings and pence—the "area of disturbance" in making this change is narrowed down to the smallest possible, and I venture to think the change more than compensated for, by the opportunity it affords, at any moment, for the adoption of a decimal currency in commercial and all accounts, whenever the public please.

I think we are much more likely to quietly slide into a decimal currency by this means than by any sweeping compulsory legislation, excepting that some legislation there needs must be, for a slight adjustment—and it need be but very slight—of the coinage; but that being done, the rest might be left to the public.

Accounts could be kept, either as now or in decimals. but once the public were familiarised with the latter, I think keeping them in the present way would be the exception.

The change only requires, and is governed by, two simple rules.

The first:—To show the decimal of 1,000 farthings to a £. Reduce the shillings and pence of the present currency by multiplying them by 50 (by 12 and 4⅙th is perhaps the more correct mode of stating it). the result being three places of figures, forming the decimals to take the place of the shillings and pence columns, expressing the aliquot part of the £ in farthings of 42 grains each. (Victorias I should like to call them.)

The second:—To bring the decimals back to their present value. Multiply them by 2 and divide by 100. This gives the shillings, and any remainder, multiplied by 12, the pence.

When the public got acquainted with, and used to the new currency, these rules would no longer be required. They are simply tentative.

A reference to the following table will best show the proposed change. It will be seen how very little it interferes with the present circulation.

The threepenny and sixpence, only because they have the face value on them, and perhaps the penny, are the only coins that need be re-coined. The sixpence re-issued (the standard weight would remain the same) as 25 Victorias, and the penny increased to a 5-part coin and the threepenny reduced to a 10-part coin. The farthing and half-penny might do duty for the present as 1 and 2 Victorias.

If a "defence" of the proposed name "Victorias" is needed (?) I would say that it distinguishes the new farthing of 42 grains from the present one of 43·75 grains, and the name would mark the reign in which the change was carried out, and may I add, increase the lustre of it.

Of course the correct designation would be the common mille.

To repeat—it must be understood that in putting forward the following currency table I do not advocate or suppose any "standard" but the present—viz.: of the monometallic sovereign.

The Currency Table is:

Current Farthings of 43·75 each.	New Coin of 42 grains each compared with the old.		Re-coined as Victorias.
1 = farthing =	1 and $\frac{1}{24}$	bronze	1
2 = half-penny =	2 ,, $\frac{1}{12}$	,,	2
4 = penny =	4 ,, $\frac{1}{6}$	,,	5
12 = threepenny =	12½	silver	10
24 = sixpence =	25	,,	25
48 = shilling =	50 Victorias	,,	Silver not to be re-coined
96 = two shillings =	100 ,,	,,	
120 = half-crown =	125 ,,	,,	
192 = four shillings =	200 ,,	,,	
240 = five shillings =	250 ,,	,,	
480 = half-sovereign =	500 ,,	gold	
960 = sovereign =	1,000 ,,	,,	

The half-crown and five shillings, and perhaps the four shillings, might be gradually withdrawn, nobody likes these large coins.

III.—*Notes on Economical and Statistical Works.*

Life of Adam Smith. By John Rae. London: Macmillan and Co., 1895.

This will be the standard life of Adam Smith. It includes the personal details indispensable to an adequate biography of so notable a man. It gives also a picture of his surroundings which will interest even such (if such there be) as care nothing for the man himself.

For instance, Kirkcaldy, where Adam Smith was born (1723), had then 1,500 inhabitants, including "its poor colliers and salters, who were still bondsmen," its shippers trading with the Baltic, its smugglers, and its custom house officers; it had a nailery or two, where certain illustrations of division of labour and of barter (truck payment of wages in nails) may have been suggested (pp. 7 and 8). Again, we read that when young Adam Smith travelled from Glasgow to Oxford, in 1740, the journey, on horseback, would cost about 10*l.*; his living at Balliol would cost him about 7*l.* 5*s.* a term; and, as he spent the whole calendar year in residence, he would spend in the year the whole of his exhibition of 40*l.* Three times the amount would be needed now by the most parsimonious undergraduate. When Adam Smith leaves Oxford (1746), and, after a short period of apprenticeship in lecturing at Edinburgh, goes to Glasgow as professor of logic in 1751, to become professor of moral philosophy in 1752, we have still more frequent details of general interest. We are told, for example, that the students of the college, as of an *imperium in imperio*, claimed to be able to cultivate their philosophy on an oatmeal untaxed by the *octroi* of the city. They made good their exemption largely through the efforts of "Professor Smith" (pp. 66 and 67). Again, the trade guilds of Glasgow had forbidden James Watt to open a workshop in the bounds of the city. Thereupon he was appointed maker of mathematical instruments to the university, and got a workshop in the grounds of the college (pp. 71—73), where Dr. Black was already at work in a chemical laboratory, and Wilson was soon to have a foundry for the type of the Foulis press. What would now be called lectures on technical education were delivered by Professor Anderson to popular audiences in the college (pp. 72 and 73). The chapter on "Glasgow Folk" (chapter vii), helps us very clearly to understand the commercial position of the city in the middle of last century. The change which has made us what we are (such as we are) had fairly begun. Though Glasgow was still, what it hardly is now, "a beautiful city," it was beginning to be also what it still is, a great centre of trade and manufacture. The union had opened to it the trade with the American plantations, and it was already the chief emporium for Virginian tobacco, transhipped for the Mediterranean, the Baltic, and the North Sea. Ironworks had been started to convert Swedish and Russian iron into hoes and spades for Maryland negroes. There was also a tannery employing 300 men, thought then a large number; and saddles and shoes were another part of the return cargo of the tobacco ships. There was also a linen-printing work, a copper and tin foundry, a pottery, all set on foot between 1742 and 1748, and followed by manufactories of carpets and crape, silk, and gloves. The city started banks of its own (1750 and 1752). It began to deepen its river and improve its docks. The Forth and Clyde canal was promoted for the sake of the trade with the Baltic. There was not a beggar in the streets (p. 89), which could hardly be said now. The merchant princes seem to have been men of large minds, and to one of them —Provost Andrew Cochrane—Adam Smith confessed himself much indebted for impulse and suggestion. No wonder that the Professor preferred the "progressive" state of things to the "stationary" and "declining." No part of his experience is so distinctly reflected in his book as what he heard and saw at Glasgow in those years.

No doubt the *Wealth of Nations* (1776) would have been written even if he had remained in that city; but he procured better leisure for writing it by resigning his chair and going abroad with a pupil (1764-66), Townshend, the pupil's guardian, paying him 300*l.* a year as an inducement. Mr. Rae adds considerably to our knowledge of his foreign tour, and seems perfectly justified in disclaiming for his hero any relation of discipleship towards French teachers. He learned from them, it is true, as he learned from the Glasgow merchants; but his was a master mind.

Among the remoter consequences of the tour and the book, was Adam Smith's appointment as Commissioner of Customs at Edinburgh (1778). The book gave Lord North a hint for new taxes (Rae, pp. 294, 310), and he was grateful for the hint. In the chapters relating to this part of his hero's life, till its close in 1790, Mr. Rae has printed many important letters (especially on Ireland and America) that have not seen the light before, along with many anecdotes and incidents from various sources, known to few, and never before presented together in their proper biographical place. It is curious to read, for example, of Adam Smith's condemnation of a project for home colonies in the Highlands, 1785 (p. 408). "He looked for no other consequence from the scheme than the entire loss of every shilling that should be expended on it; granting, however, with uncommon candour, that the public would be no great sufferer, because he believed the individuals meant to put their hands only in their own pockets." The event fulfilled his predictions on this small project, as it so often confirmed his verdict on much greater matters; but the fulfilment was slow in coming. The "British Society for Extending the Fisheries" survived the centenary of Adam Smith's death, and was only wound up two years ago!

The foregoing scraps from Mr. Rae's book may serve to show how much more is contained in it than a bare "Life" of Adam Smith.

The History of Currency, 1252 *to* 1894. By W. A. Shaw, M.A. Pp. xxx + 431. London: Wilsons and Milne. 15*s.*

That a careful history of the currencies, both metallic and paper, of Europe and of the United States of America, would be extremely useful, we cannot for a moment doubt, provided it were reduced to such a bulk as not to deter would-be readers by its magnitude, and, so far as possible, kept free from the more abstruse technicalities which require some considerable previous training on the part of him who would appreciate and enjoy them.

In some respects the work of Mr. Shaw meets this obvious need, and comparatively trifling changes would enable it to fulfil that purpose much more completely than it does. We shall venture to make one or two suggestions presently with this end in view. At present we shall content ourselves with remarking that to have condensed into 299 pages the history of metallic coinages in Florence, Venice, Spain, Portugal, Germany, France, England, the Netherlands, the United States of America, and to include also some remarks on Indian currency, is an achievement upon which Mr. Shaw may congratulate himself. Notwithstanding the moderate compass of the work, an enormous mass of detail is given, and the appendices contain much more which would have burdened the text too heavily. To include accounts of paper currencies was beyond the aim of the author, who may possibly have a second volume in preparation dealing with this most important branch of monetary history.

Mr. Shaw has collected from numerous authorities the facts relating to the changes in denomination, in weight and in fineness of the coinages of the countries mentioned, and we are able to realise how the statesmen of every country in Europe were faced with problems similar to those which presented themselves in England, and to see how they attempted to meet the difficulties which arose from the changing values of the two metals of which the bulk of their coinages were made. That the review of these efforts is full of instruction we fully agree with our author, though we would not fail to bear in mind that the majority of historic facts which have so direct a bearing on economics as have the facts relating to currency, have shown themselves capable of at least two interpretations, which are often mutually contradictory. The conclusions we draw from them for our practical guidance in the affairs of our own time will be largely influenced by the theories with which our minds are occupied when we examine them. In this particular instance we might, were we desirous of entering the field of controversy on so hotly debated a matter as this, show that the very facts which Mr. Shaw himself places on record, may be made to appear not inconsistent with views to which he is himself in most direct antagonism.

We should have perused this volume with far greater pleasure had it been written from the impartial standpoint of the scientific enquirer, rather than from that of an eager sharer in the battle of the standards. We would suggest that, even if the author's convictions are too strong to permit him to leave them unrecorded in the volume, it would have been better not to intersperse controversial matter so freely with the historical material with which he is dealing. Indeed, had the object of making a contribution to the bimetallic controversy been postponed till another volume could have been written, in which the material so carefully collected here might have been constantly referred to, the cause of science would have been the gainer.

In regard to the arrangement of the material we would venture to offer a word of advice to Mr. Shaw. Assuming that this volume is intended to be read by those who are deeply read neither in history nor in monetary science, a little explanation of certain terms at their first introduction would aid greatly towards a sure comprehension of the facts. To illustrate what we mean, we may point out that, on p. 8, the mark and its subdivisions are referred to as measures of weight, and the number of gold (and later, silver) coins which went to the mark is stated. It is not, however, till we reach p. 26 that we learn that the weight of the Florentine gold florin was 53 grains, and are thus enabled to calculate the weights of other pieces named. If the information occurs earlier, a careful search, several times repeated, has failed to reveal it to us. We would suggest that a footnote stating the number of grains English in the Cologne mark (for example) when that term is first used, would assist the reader in forming a clear conception of the matters dealt with, and would provide a valuable link of connection, now lacking in the book, between various denominations of English and foreign coins. If the footnote included a brief table showing the relations of the subdivisions of the principal measures of weight used in the text to one another and to those principal measures, still more would be added to the clearness of the book.

One further suggestion. There are some very striking diagrams inserted to represent the facts tabulated in the text. Unfortunately, the scales shown at the sides of the diagrams, in four of the six cases, lack explanation, and the reader is compelled to resort to somewhat elaborate comparisons of diagrams and tables to determine what facts are plotted. A simple and easily made addition would obviate this inconvenience. If it be not already too late, we may hope that the second edition, which we understand to be in preparation, will show improvement in such respects as those here noted.

We make these strictures in no spirit of hostile criticism, for, apart from the constant reiteration of his monometallic faith, we feel ourselves greatly indebted to the author of a treatise designed to meet so obvious and serious a want.

We may add that the appendices are enriched by careful tables of coins in the chief States of Europe, arranged chronologically, with their weights, finenesses, and values.

The Life of Sir William Petty. By Lord Edmund Fitzmaurice. Pp. 15 + 335. London: John Murray. 16*s.*

To students of economics, particularly to those who take a special interest in the statistical treatment of social problems, the history of the seventeenth century in our own country can provide few, if any, personalities more striking, or writers whose works possess so great an interest, as those of the man whose biography is contained in the volume before us, and a monograph relating to whom we noticed in March.

Born in 1623, developing a love of adventure which caused him to begin his career by going to sea at 15, and doing some small trading on his own account at that early age, he showed a remarkable talent and ability in acquiring knowledge of the most varied description. At the age of 24 he is described in a letter to Robert Boyle as "a perfect Frenchman, and a good linguist in other vulgar languages, besides Latin and Greek; a most rare and exact anatomist, and excelling in all mathematical and mechanical learning." He had already invented a copying machine, and was entertaining designs for a treatise advocating the freeing of trade from the hurtful restrictions of the then existing system, and for establishing a society such as was, later in his life, actually established and became the Royal Society. He soon afterwards became Professor of Music at Gresham College, apparently while holding the office of Deputy to the Professor of Anatomy at Oxford. He became Professor of Anatomy himself in 1651, and also Vice-Principal of Brasenose.

From the scientific pursuits of an academic life, we find him called to be Physician-General to the Army in Ireland in 1652, and, before another two years had passed, he was engaged in the great work of surveying that unfortunate country for the purpose of allotting, to the army and other creditors of the State, lands in payment of their claims. Of the manner in which he carried out that work his biographer gives an excellent account, as also of the continual troubles which the labour involved, and which did not cease to engage his attention to the close of his life.

The *Down Survey*, the *Political Anatomy of Ireland*, and the *Political Arithmetic*, are probably the works by which the name of Petty is best known. A very considerable interest, however, attaches to other results of his genius, and to his treatment of his property in Kerry, which he appears to have managed wisely and in an enlightened fashion, especially for his time. The physician and statesman was also, as before noted, a mechanical genius, and the accounts of his invention of a double-bottomed ship, of his attempts to improve carriages, and other employments of such leisure as he had, are full of interest and instruction. He was, of course, involved in the religious, and also, though much against his will, in the political, controversies of his time, and of these we are able to learn much from the account of his life.

The seventh chapter of the work under notice is devoted to an examination of Petty's principal works, and an exposition of his views on economical matters, especially as shown in his *Treatise on Taxes*, *Political Anatomy of Ireland*, *Political Arithmetic*, and sundry essays. We find that, though all aimed at practical ends, and though expediency is permitted to override considerations derived from theory, these works contain expositions of economic doctrines such as we do not commonly associate with the times in which they were written. We could wish that the works treated of in this seventh chapter were more readily available, so that their contents could be more widely studied and known. They would be far better worth publishing and reading than much that now attracts popular attention, and would, as indeed would many writings of the seventeenth and eighteenth centuries, show that some modern ideas are not as new as their proposers imagine. The biographer of Sir William Petty has, in the concluding lines of his work, referred to him as "the founder of political economy." Whether the phrase can be justly applied must, we imagine, depend largely on our conception of the meaning of the term "political economy." Certainly the works of Petty contain a systematic and scientific treatment of a number of most important economic problems.

We learn from the title page and preface that the materials for the biography are largely derived from private documents hitherto unpublished. The volume is enriched with two engravings of portraits of Petty, a map of Ireland illustrating the survey, and two other engravings of minor interest. A list of Petty's writings, a copy of his will, and of a document relating to the survey, are added as appendices.

The Rural Industries of England. By J. L. Green (with an introduction by Right Hon. Jesse Collings, M.P.). London: Marlborough and Co., 1895.

Can the hold of the country on its working population be strengthened if other industries than agriculture can be made to flourish and abound there? That is the question before the mind of Mr. Green, and he is ready with an affirmative answer; only he feels bound to show us that, in spite of the example of Switzerland, and in spite of the good intentions of county councils and home arts and industries societies, we are not making much progress in the desired direction.

He gives us in this book the result of personal inquiries made by himself in the counties of England over a period of six years. In each case he has taken certain districts as typical of the whole county—a northern, southern, eastern, and western district (p. 56), and the results are on the whole to show that rural industries in the sense of peculiar and characteristic productions, like Keswick pencil making (67), Buckingham lace making (60), and Sudbury bunting manufacture (111), are dying out. "Rural industries" are usually thought to mean home industries, and lace making and straw plaiting stand out from the rest. In county after county we hear of them, but always as less prosperous now than formerly—killed by foreign competition, or home inattention, or mechanical invention.

Of course rural industries may be something very different from home industries. In one parish of Cumberland, for example, "practically no home industries remain, beyond the finishing of men's clothing for a manufacturer" in the chief town (67). This is hardly what the average philanthropist would regard as home industry. Again, in a Dorset parish, the women sew in their cottages the gloves already cut out for them in the factories at Yeovil (73). In an Essex parish some of the women make trousers for army contractors (77). But the enthusiasts who are reviving metal work, and embroidery, and wood carving would hardly look with favour on what is merely piecework, done perhaps under "sub-contract."

Mr. Green, it is right to say, is not so fastidious. He approves of transferring large manufactories to the country, and points out the economies thereby effected, to say nothing of the moral gain (149; *cf.* 199). The trades unions are sometimes in the way, as at Northampton (101); but, if we may add to Mr. Green's instances, they have not been strong enough to prevent our London publishers from printing at Frome and Bungay.

The book contains a useful sketch of the various Acts affecting allotments and small holdings, down to the most recent—the Local Government Act of 1894. This part of the book, together with the account of the Home Arts and Industries Association, will be of distinct service to all who are thinking of practically embarking on schemes of this nature. They will be enabled to see pretty clearly what can be done and what others have been doing.

Local Government and Local Taxation in England and Wales. By Wright and Hobhouse. Second edit., pp. xxi + 152. London: Sweet and Maxwell. *7s. 6d.*

The lapse of ten years since the first edition of this book was issued has made it necessary to introduce very considerable alterations in the new edition. The changes introduced into the machinery of local government by the Acts of 1888 and 1894 are explained, and the constitution of the local authorities and their relations with the central government set forth. These matters occupy Part I, now enlarged by a chapter on "The Rural District;" Part II, on "Matters of Local Administration," now includes chapters on "Parish Property, Rights of Way and Open Spaces," "Allotments and Small Holdings," and "Workmen's Dwellings," and in Part III, dealing with Local Finance, the tables of taxation are brought up to date, as are also the indices.

The new edition, in the preparation of which Mr. Hobhouse has had as his colleague Mr. E. L. Fanshawe, forms a work which cannot fail to be of use to all those numerous persons who have some share in one form or other of local administration, and to whom a knowledge of the powers and duties of the representative body to which they belong and its relation to other authorities is obviously indispensable.

Economic Classics. Edited by W. J. Ashley. London: Macmillan and Co.

Adam Smith.	Select Chapters and Passages.
Ricardo.	First Six Chapters.
Malthus.	Parallel Chapters from the first and second editions.

The series of which the first three volumes are now issued is likely to prove of considerable use, for at least two reasons. One is that many people are frightened by names and by large volumes, and may be induced to see for themselves what they have been content to take on trust from others when it is presented in so handy a form as that adopted by Messrs. Macmillan. Another reason applies but little to the first numbers of the series, but will apply with much force to other volumes, namely, that the works of the writers to be thus popularised are not at present easily accessible to the general public. If people can be induced by the issue of such an edition as this to consult the great leaders of economic science for themselves, the series will be a great boon.

Each volume is preceded by a brief biography of the writer whose work is reproduced, and a statement of the dates of publication of the various editions of the work.

It is sufficient to say that the selection of chapters appears to be judicious, and that the complete table of contents is given in each case, thus enabling the relation of the parts printed to those omitted to be seen. Where important differences occur in a later edition, the alterations are shown by means of brackets.

Report on the Chicago Strike of June and July, 1894. By the United States Strike Commission. Washington: Government Printing Office. Pp. liv + 681.

The rapidity of operation of the American Commission, whose report we welcome, may cause us Englishmen some envious regrets that we cannot attain to a celerity even approximating to that of this commission, which, appointed on 26th July last, reported to the president on 1st November, the report being presented to the Senate and House of Representatives on 10th December; especially when we learn that the $5,000 appropriated for the purpose proved amply sufficient for all expenses. Sitting for five hours per day, 107 witnesses were examined in thirteen days and two others subsequently. Besides this oral testimony, a large number of written communications and recommendations were sent to the commission. A digest of the latter, and the evidence in full, accompany the report.

Among figures relating to the strike, we gather that the losses in earnings and property, &c., to the railways were estimated at about $5,360,000, and the loss of earnings to the men at about $1,740,000, that 12 persons were shot or fatally wounded, and that more than 14,000 men were required to maintain order in place of the usual police force of 3,000 in Chicago. The report gives also figures relating to the establishment at Pullman and to the various labour organisations engaged in the strike, as also to the General Managers' Association and the extent of the railroads under its control.

The chief recommendations of the commission are, the establishment of a permanent strike commission to settle disputes between railroads and their employees, and to possess powers similar to those of the Interstate Commerce Commission, and the establishment of some system of conciliation and arbitration in the various States, such as that in use in Massachusetts.

The commission also urges employers to recognise labour organisations, and presses on them the wisdom of trying to act as far as possible in concert with their men. It would also make contracts requiring, as a condition of employment, that men should not join labour organisations, illegal.

Bevölkerung Österreichs. By Dr. Heinrich Rauchberg. Wien; 1895. Pp. 530.

In a bulky volume, Dr. Rauchberg deals with the results of the Austrian census of 31st December, 1890. After preliminary chapters on the development of the method of taking the census in Austria, the arrangements for the last census, and the results of earlier enumerations of the people, he deals in twenty-one chapters with the various aspects of the census figures. Among matters of more than ordinary interest is a section on the influence of rates of wages on migration, where it is shown by examples that the balance of emigration is large where wages are low, and *vice versâ*. Throughout, the figures are compared with those of the two preceding censuses, the comparison yielding very instructive results. The volume includes chapters on the foreigners in Austria, and on Austrians in other countries, so far as the census returns of those countries permit the figures to be given.

The results are shown not only in tables, but in ten cartograms dealing with density of population, emigration, rates of wages, &c., and in two excellent diagrams, both of which are worthy of special notice.

In one the birth, death, and marriage-rates from the beginning of the century are shown, and, along with them, the price of wheat, the average price of wheat, rye, and potatoes, and the rates of wages for ordinary unskilled labour. The last two sets of figures are also combined to produce a curve of real wages. From these curves it would appear that both nominal and real wages have advanced considerably in Austria during the past sixty or seventy years (the record of wages begins in 1827). The sharp rise in nominal wages after 1860, especially from 1865 to 1872, is most remarkable, and the curve of real wages shows the change as practically continuous from 1860. The years after 1872 show a slight fall of nominal wages, and only a comparatively slow rate of increase of real wages. The increase is, however, quite unmistakable, and would appear greater but for the extreme rate of improvement in the dozen years preceding, with which it is contrasted.

The readers of this Journal will probably be interested also in the second diagram, which shows the distribution of population according to age. The curves for males and females are shown on either side of the central line of the diagram, and the similar results for 1869 are shown for comparison. There appears to be a slight preponderance of persons over 60 as compared with the earlier date, more marked in the females than in the males. An interesting comparison of the population of Vienna with that of the whole country is obtained by the addition of a third line to the diagram. The younger ages, up to about 15, show in smaller proportionate numbers in Vienna than in the whole country. From 15 to about 50 these numbers are in excess in Vienna, the excess culminating in the neighbourhood of 25 years of age, and for ages beyond 50 the proportionate numbers are fewer in the city than in the whole country, especially with men. Similar facts would probably be shown for other countries, and reasons for the contrast are not far to seek.

Lois Sociales. By Joseph Chailley-Bert and Arthur Fontaine. Pp. 407. Paris: Léon Chailley.

This volume is a collection of the various statutes which, in France, deal with social questions (the conditions of labour, relations between labour and capital, insurance, &c.).

These laws are arranged under the various subjects with which the statutes are more immediately connected, and the table of contents, a chronological table, and an excellent index, facilitate the task of searching for any required enactment.

The present volume includes the legislation of the session of 1894, and the authors propose to publish annual supplements to keep the record up to date.

In addition to the laws actually in operation, the acts or portions of acts repealed are given on the same page as that on which they would appear if still in force, but in a different type, the ordinary text containing references to the repealing acts. The great utility of such a collection as this need hardly be commented upon.

Practically the record covers the legislation of a century. Only some half dozen edicts and ordinances dating before 1789 are referred to, and the majority of these permit of a fairly brief summary being substituted for the original texts. The laws of the years 1789 to 1793 which come within the range of the volume are not very numerous. We observe that the authors exercise their discretion in giving examples of numerous laws now no longer in force, and similar in general purpose.

La Propriété, Origine et Évolution. Thèse Communiste. Par Paul Lafargue. *Réfutation.* Par Yves Guyot. Paris: Delagrave. 1895.

After the death of David Hume, his essay on suicide was printed in the same volume with a rejoinder to it. Similarly in the present case the bane and the antidote are both before us, though their proper order is curiously inverted, and M. Lafargue has the last word. A public debate of the two opposing authors, perhaps in the form of a "symposium" in the *Revue des Deux Mondes*, might have better served the ends of justice. But there is piquancy in the arrangement as it stands, and the reader after all can begin where he likes.

M. Lafargue defines capital as that kind of property which yields to the owner an income made for him by the labour of others. This definition makes it easy to attack the "capitalistic" system, and to show how much the idea of property has altered from primitive communism downwards. The book owes much to Engels and Morgan, and represents the materialistic view of history to which many socialists incline. After Professor Loria's exposition of this view, M. Lafargue's seems somewhat rhetorical. The end foreseen and welcomed by the latter is communism.

The refutation is temperate, and worthy of M. Guyot, though many of us would hardly go so far as he does in praise of the present state of the French peasantry.

Statistical and Economical Articles in Recent Periodicals.

UNITED KINGDOM—

Economic Journal. Vol. v, No. 17, *March*, 1895—

Quesnay's *Tableau Economique: S. Bauer.* Inequality of Local Rates: *E. Cannan.* The Municipal work and Finance of Glasgow: *W. Smart.* The English currency under Edward I: *C. G. Crump* and *A. Hughes.* The German Silver Commission: *J. Landesberger.* Recent contributions to Mathematical Economics: *C. P. Sanger.*

Economic Review. Vol. v, No. 2, *April*, 1895—

Women's Work: *C. G. Robertson.* The Origin of Trades-Unionism: *W. A. S. Hewins.* Old-Age Pensions by means of Municipal Dwellings: *Edward Thomas.*

UNITED STATES—

American Statistical Association Publications. Vol. iv, Nos. 28, 29, *December*, 1894, *March*, 1895—

Computation of the value of the Wealth in existence: *G. K. Holmes.* Effects of Free Surrender and Loan Privileges in Life Insurance: *M. M. Dawson.* Was the Count of Population in 1890 reasonably correct?: *H. Gannett.* Some recent contributions to the literature of Vital Statistics: *G. N. Calkins.*

Annals of the American Academy of Political and Social Science. Vol. v, No. 6. *May*, 1895—

Uniform State Legislation: *F. J. Stimson.* State Supervision for Cities: *J. R. Commons.* Theories of Value and the standard of Deferred Payments: *F. Fetter.* Industrial services of the Railway: *E. R. Johnson.* Units of Investigation in the Social Sciences: *A. F. Bentley.*

Journal of Political Economy. Vol. iii, No. 2, *March*, 1895—

Quantity of Money and Prices, 1861-92: *S. McLean Hardy.* Relation of Sociology to Economics: *A. W. Small.* Public Ownership of Mineral Lands in the United States: *G. O. Virtue.* Credit Instruments in Retail Trade: *D. Kinley.*

Political Science Quarterly. Vol. x, No. 1, *March*, 1895—

Municipal Home Rule: *F. J. Goodnow.* Workingmen's Dwellings in London: *E. Porritt.* The Law of Population restated: *S. N. Patten.* Legislation against Futures: *H. C. Emery.* Chicago's Electric-Lighting Plant: *W. J. Meyers.*

Quarterly Journal of Economics. Vol. ix, No. 3, *April*, 1895—

The Positive Theory of Capital and its Critics. II: *E. Böhm-Bawerk.* The Origin of Interest: *J. B. Clark.* The Classification of Public Revenues: *E. R. A. Seligman.* Von Thünen's theory of Natural Wages. I: *H. L. Moore.* State regulation of Prices and Rates: *W. H. Dunbar.* Aristotle's doctrine of Barter: *W. J Ashley.*

Yale Review. Vol. iv, No. 1, *May*, 1895—

The Government and the Bond Syndicate: *B. Ives.* Recent Reforms in Taxation: *E. R. A. Seligman.*

FRANCE—

Annales de l'Ecole Libre des Sciences Politiques. *No.* 2, *March,* 1895—

La constitution serbe. Ses origines, ses caractères, ses transformations: *F. Morel* (*conclusion*). Un problème de colonisation intérieure: La germanisation de la Polgone prussienne: *B. Auerbach.*

Journal des Economistes—

March, 1895—

Le Protectionnisme communal: *J. Charles-Roux.* Malthus et la Statistique: *G. Fiamingo* (*conclusion*). La Politique des Traités de Commerce: *Léon Say.*

April, 1895—

L'Economie de l'Histoire: *G. de Molinari.* Le véritable dégrèvement des petites successions: *C. Parmentier.*

May, 1895—

La Crise et la Protection: *Léon Say.* Les théories de la population en Allemagne depuis le xvi^e siècle: *E. Castelot.* Une cité ouvrière co-opérative hollandaise: *D. Bellet.*

Journal de la Société de Statistique de Paris—

No. 3. *March*, 1895—

Statistique de l'industrie minérale pour 1893; *O. Keller.* Les révélations du *Census* de 1890 aux Etats-Unis: *A de Foville.* Statistique de la fabrication des valeurs fiduciaires postales, de 1848 à 1892: *A. Vannacque.* Mouvement de la population de la France pendant l'année 1893.

No. 4. *April*, 1895—

Statistique de l'enseignement primaire aux Etats-Unis: *E. Levasseur.* La vitesse de la circulation de la monnaie: *P. des Essars.*

La Réforme Sociale—

No. 102. 16*th March*, 1895—

La Question des Nègres aux Etats-Unis: *A. Moireau.*

No. 103. 1*st April*, 1895—

Le rôle et le devoir du Capital: *E. Cheysson.*

No. 104. 16*th April*, 1895—

Le Play et M. Gabriel Tarde: *H. Mazel.*

No. 107. 1*st June*, 1895—

Les Assurances ouvrières et le Socialisme d'Etat: *A. Gigot.*

Revue d'Economie Politique—

No. 2, *February*, 1895—

Les commencements du crédit public en France, les rentes sur l'Hôtel de Ville aux xvi^e siècle: *P. Cauwès.* La politique commerciale et coloniale de la France: *Dr. A. Peez.* Les derniers résultats de l'assurance obligatoire contre les accidents en Allemagne et en Autriche: *E. de Ronchamp.* Notes pour servir à une monographie du paysan propriétaire du Lot-et-Garonne: *G. Maydieu.*

No. 3. *March*, 1895—

De la mesure de la valeur: *M. Bourguin* (*continued in No.* 5).

FRANCE—*Contd.*

No. 4. *April*, 1895—

Les industries de l'alimentation à Paris: *E. Schwiedland.* Un projet d'assurance contre le chômage dans le Canton de Bale-Ville: *R. Jay.*

No. 5. *May*, 1895—

Le commerce international et la monnaie nationale: *M. d'Oloscoaga* (*to be continued*).

GERMANY—

Archiv für Soziale Gesetzgebung und Statistik. Band viii, Hefte 1 *und* 2. 1895—

Der Dienstvertrag des zweiten Entwurfes eines bürgerlichen Gesetzbuches für das Deutsche Reich: *Prof. P. Lotmar.* Entwicklung und Geist der englischen Arbeiterorganisationen: *Prof. L. Brentano.*

Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Heft 2. 1895—

Weshalb hatte Roscher so wenig Einfluss in England? *W. Cunningham.* Die neueste Wuchergesetzgebung und die bäuerliche Kreditnot: *K. Th. Eheberg.* Zur Geschichte des Methodenstreites in der politischen Ökonomie: *W. Hasbach.* Der Befähigungsnachweis (*concluded*): *W. Stieda.* Einige Worte zum Antrag Kanitz: *G. Schmoller.*

Jahrbücher für Nationalökonomie und Statistik—

Band ix. Heft 2. 1895—

Stadt und Land unter dem Einfluss der Binnenwanderungen: *A. Wirminghaus* (*to be continued*). Die Anwendung der Interpolation in der Statistik: *H. Westergaard.* Die gesetzliche Regelung des Grunderwerbs in den englischen, französischen und holländischen Kolonien: *A. Zimmermann* (*to be continued*). Die Monatspreise des Getreides: *J. Conrad.* Die Preisentwickelung der letzen Jahre und der Antrag Kanitz: *J. Conrad.*

Band ix. Heft 3. 1895—

Der deutsche Getreidehandel: *K. Wiedenfeld.* Der ungarische Zonentarif: *C. Balogh.* Eine ältere Getreidepreisstatistik: *G. Zöpfl.*

Band ix. Heft 4. 1895—

Zur Entstehung der deutschen Stadtverfassung: *W. Varges* (*to be continued*). Zur Entstehung der Rittergüter: *G. v. Below.* Die russischen Jahrmärkte mit besonderer Berücksichtigung der Messen von Nishnij-Nowgorod und Irbit: *O. Simson.* Die Berichte der weiblichen Fabrikinspektoren in England: *Gertrud Dyhrenfurth.* Die Entwickelung des Lokalbahnwesens in Ungarn im Jahre 1893: *C. Balog.*

Band ix. Heft 5. 1895—

Der deutsche Getreidehandel: *K. Wiedenfeld.* Einiges über Massregeln zum Schutze der Edelmetallreserve mit besonderer Rücksicht auf Oesterreich-Ungarn: *B. Földes.* Die wirtschaftliche Entwickelung des Altertums: *E.*

GERMANY—*Contd.*

Jahrbücher für Nationalökonomie und Statistik—Contd.

Band ix. Heft 5. 1895—*Contd.*

Meyer. Das Scherl'sche Sparsystem: *J. Pierstorff.* Zur Ein- und Aus-wanderungsstatistik: *C. Strauss.*

Vierteljahrsschrift für Litteratur und Geschichte der Staatswissenschaften. Band iv. Heft 1. 1895—

Die Reichsfinanzreform: *Dr. G. v. Mayr.* Die Litteratur der Dogmengeschichte der politischen Ökonomie in Italien: *Dr. A. Graziani.* Zur Biographie des Stifters der Physiokratie, François Quesnay: *Prof. A. Oncken.* Die Gewerbegenossenschaften in Österreich im Lichte der neuesten Statistik: *Dr. E. Elkan.*

Zeitschrift für die Gesamte Staatswissenschaft. Heft 3. 1895—

Landwirtschaftliche Berufsgenossenschaften und Rentengüter in Oesterreich: *Dr. W. Schiff.* Die wirtschaftliche Erschliessung sumpfiger Niederungen: *Dr. A. Pflug.* Das Problem der Wirtschaftskammern: *Dr. A. Schäffle* (*continued from last two numbers*).

AUSTRIA—

Statistische Monatschrift—

February—March, 1895—

Kirchenstatistik: *Dr. F. Schmid* (*concluded*). Die Sterblichkeit in den grösseren Städten Oesterreichs im Jahre 1894: *Bratassevic.*

April, 1895—

Die Illegitimität in Steiermark: *Dr. O. v. Zwiedineck-Südenhorst.* Die öffentliche Armenpflege in Oesterreich während der letzten zwanzig Jahre: *Bratassevic.* Oesterreich-Ungarns Aussenhandel im Jahre 1894: *J. Pizzala.*

ITALY—

Giornale degli Economisti—

April, 1895—

La caduta della Società generale di credito mobiliare italiano: *M. Pantaleoni* (*continued in next number*). Teoria matematica del commercio internazionale: *V. Pareto.*

May, 1895—

Della velocità di circolazione della moneta: *P. des Essars.* La questione degli Zolfi in Sicilia: *G. Degrossi.* Le operazioni ausiliarie e complementari nella statistica metodologia: *C. F. Ferraris.*

June, 1895—

Sullo sviluppo storico delle forme di rimunerazione: *R. B. d' Aiano.* La banca di stato della conferazione svizzera: *S. R. de Baranowski.* L' agricoltura e i debiti ipotecari negli Stati Uniti d' America: *E. Rossi.*

IV.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15*th June*, 1895, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries.	
Argentine Republic—	
Comercio Exterior Argentino. Año 1894. No. 84. Importacion y Exportacion de los años 1893 y 1894. 8vo.	The Director-General of Statistics
Higiene. Anales del Departamento Nacional de. (Current numbers)	Dr. E. R. Coni
Buenos Ayres (*Province*). Boletin mensual de Estadistica de Policia. Año iv, Nos. 11 and 12, 1894	The Provincial Statistical Bureau
Buenos Ayres (*City*). Monthly Bulletin of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Austria-Hungary—	
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo. Handel. Statistische Übersichten betreffend den auswärtigen, des österr.-ungar. Zollgebiets. (Current monthly numbers) Handels. Statistik des auswartigen, des österr.-ungar. Zollgebiets, 1893. (Band iii, Vormerkverkehr, Durchfuhr.) 8vo.	The Statistical Department, Ministry of Commerce
Staatshaushalt. Der österreichische, in 1891 und 1892. Fol. Strafanstalten und Gerichts-Gefängnisse im Jahr 1891. Statistische Übersicht der Verhältnisse der. Fol. Statistische Monatschrift. (Current numbers)	The Central Statistical Commission
Staats-Voranschlag, 1895. 21 parts. 8vo. Entwurf des Finanzgesetzes und Staats-Voranschlag, 1895. 8vo.	The War Office
***Bohemia*—**	
Armenpflege. Statistik der öffentlichen, Jahr 1890. Maps, la. 8vo. Mittheilungen des Statistischen Bureau des Landesculturrathes für 1893. Maps, 8vo.	The Statistical Bureau
Brünn. Summarischer Bericht der Handels- und Gewerbekammer in Brünn über die Geschäftlichen Verhältnisse in ihrem Bezirke während 1894. 8vo.	Sir R. W. Rawson, K.C.M.G., C.B.
Prague. Bulletins hebdomadaires et trimestriel de la ville de Prague et des communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau
Belgium—	
Budgets des Recettes et des Dépenses pour l'Exercice 1895. Fol.	J. S. Keltie, Esq.

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(a) Foreign Countries—*Contd.*	
Belgium—*Contd.*	
Chemins de Fer, Postes, Télégraphes, Marine. Compte rendu des opérations pendant 1892. Maps, fol.	J. S. Keltie, Esq.
Colonies, Les, et l'Etat indépendant du Congo. Rapport. 8vo. 1895	Sir Charles M. Kennedy, K.C.M.G.
Commercial, Tableaux du Mouvement, avec les Pays Etrangers. (Current monthly numbers)	The Bureau of General Statistics
Brussels—	
Annuaire Démographique et Tableaux Statistiques des Causes de Décès. 33ᵉ année, 1894. Diagram, &c., 8vo.	Dr. E. Janssens
Bulletins hebdomadaires et trimestriel de statistique démographique et médicale. (Current numbers)	
Bulgaria—	
Commerce de la Principauté. Statistique du, avec les Pays Etrangers pendant 1894. Plates, 4to.	The Statistical Bureau
Mouvement de la Population dans la Principauté pendant 1892. 4to.	
Chile—	
Fluctuaciones del Cambio sobre Londres en Chile desde 1830 a 1894. 18 pp. 8vo	The Editor, "La Union"
Sinopsis Estadistica y Geográfica de la Republica en 1893. 8vo.	J. S. Keltie, Esq.
China—	
Customs Gazette. Nos. 103 and 104. July—December, 1894	Sir Robert Hart, Bart., G.C.M.G.
List of Chinese Lighthouses, Light-vessels, &c., for 1895. Maps	
Returns of Trade and Trade Reports for 1894. Part 1. Abstract of Statistics	
Colombia—	
Boletin trimestral de la Estadistica Nacional de Colombia. Nos. 2—5. La. 8vo. 1893-94	J. S. Keltie, Esq.
Informe del Ministro de Justicia . . . La. 8vo. 1893	
Costa Rica—	
Censo General de la Republica, 1892 (included in the vol.—Sinopsis Estadistica y Geografica, en 1892). Map, fol.	"
Denmark—	
Nationalökonomisk Tidskrift, 1895. (Current numbers)	The Danish Political Economy Society
Egypt—	
Bulletin mensuel du Commerce extérieur de l'Egypte. (Current numbers.) La. 8vo.	The Director-General of Customs
Finances. Compte général de l'Administration des, pour l'Exercice 1894. Fol.	The Ministry of Finance
Postes Egyptiennes. Administration des. Rapport sur l'Exercice 1894. 8vo.	The Administration

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(a) **Foreign Countries**—*Contd.*	
Egypt—*Contd.*	
Services Sanitaires, &c. Bulletin hebdomadaire de l'Administration des. (Current numbers) Statistique Sanitaire des villes de l'Egypte. Résumé de la période quinquennale de 1886-90. 1ère partie. Le Climat du Caire et d'Alexandrie. Diagrams, la. fol. 1895	The Health Department
Institut Egyptien. Bulletin. Jan.—March, 1894. 8vo. 1894	The Institute
France—	
Agriculture. Bulletin du Ministère de l'. 14e année. Nos. 1 et 2, 1895	The Ministry of Agriculture
Budget Général de l'Exercice 1895. 14 parts. 4to. Budget de 1895, Ministère de la Marine. 4to. Coloniales, Statistiques, pour 1890 et 1891. 2 vols. 8vo.	J. S. Keltie, Esq.
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Justice civile et commerciale en France et en Algérie. Compte général de l'Administration de la, pendant 1891. 4to. Justice criminelle en France et en Algérie. Compte général de l'Administration de la, pendant 1891. 4to.	The French Government
Travaux Publics, Ministère des. Bulletin de Statistique et Législation comparée. (Current monthly numbers)	The Ministry of Public Works
Travail. Office du—	
Salaires et durée du Travail dans l'Industrie Française. Tome ii. Industries extractives. Produits alimentaires. Industries chimiques. Caoutchouc, Papier. Cuirs et Peaux. Textiles. 8vo. 1894 Statistique des grèves et des recours à la conciliation et à l'arbitrage survenus pendant 1894. 8vo. Bulletin. (Current monthly numbers.) 8vo.	The French Labour Department
Indo-Chine Française. Douanes et Régies. Administration des. Rapport général sur les statistiques des Douanes pour 1892. 8vo.	J. S. Keltie, Esq.
Paris. Annuaire Statistique de la Ville de Paris. 13e année, 1892. Diagrams, &c.	Dr. J. Bertillon
Economiste Français. (Current weekly numbers)	The Editor
Journal des Economistes. (Current monthly numbers)	,,
Monde Economique. (Current weekly numbers)	,,
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	,,
Réforme Sociale. (Current numbers)	,,
Rentier. Journal Financier Politique. (Current numbers)	,,
Revue d'Economie Politique. (Current monthly numbers)	,,

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(a) **Foreign Countries**—*Contd.*	
France—*Contd.*	
Ecole Libre des Sciences Politiques, Annales. Année 1895, Nos. 2 et 3	The Institution
Musée Social, Le, Inauguration. 25 Mars, 1895. 4to	The Secretary
Société de Statistique de Paris, Journal. (Current monthly numbers)	The Society
Germany—	
Deutsches Handels-Archiv. Jan.—Dec., 1894. 12 parts, 4to	J. S. Keltie, Esq.
Handel des deutschen Zollgebiets. Monatliche Nachweise über den Auswärtigen. (Current numbers) Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1895, Heft 2. 4to	The Imperial Statistical Bureau
Prussia—	
Geburten, Eheschliessungen und Sterbefälle während 1893. Fol. Landesuniversitäten, &c. Statistik der Preussischen, für 1890-91 und 1891-92. Fol. Zeitschrift des K. Preussischen Statistischen Bureaus. Vierteljahrshefte 3 und 4, 1894	The Royal Prussian Statistical Bureau
Statistisches Handbuch für den Preussischen Staat. Band ii. 8vo. 1893	J. S. Keltie. Esq.
Saxony— Kalender und Statistisches Jahrbuch für 1895. 8vo. Zeitschrift des K. Sächsischen Statistischen Bureaus. Supplementheft zum 1893. (Ergebnisse der in den letzten 60 Jahren und seit der ersten allgemeinen Aufnahme vom Jahre 1834 vorgekommenen Viehzählungen). 4to.	The Statistical Bureau of Saxony
Berlin— Eheschliessungen, Geburten, Sterbefälle, und Witterung. (Current weekly and monthly numbers) Gross- und Kleinhandelspreise der wichtigsten Nahrungsmittel. February, 1895. Sheet Tabellen über die Bewegung der Bevölkerung der Stadt Berlin im Jahre 1893. La. 4to	The Statistical Bureau of Berlin
Frankfort. Handelskammer zu Frankfurt am Main. Jahres-Bericht für 1894. 8vo	The Chamber of Commerce
Hamburg. Volkszählung, 1 Dec., 1890. (Statistik des Hamburgischen Staates. Heft 16. 1894.) 4to.	The Statistical Bureau
Archiv für Soziale Gesetzgebung und Statistik. Band vii, Hefte 1 und 2, 1895	The Publisher
Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Jahrgang xix, Heft 2, 1895	The Editor
Jahrbücher für Nationalökonomie und Statistik. (Current monthly numbers)	The Publisher
Zeitschrift für die gesamte Staatswissenschaft. 51 Jahrgang. Heft 3, 1895	"
Vierteljahrsschrift für Staats- und Volkswirtschaft für Litteratur und Geschichte der Staatswissenschaften aller Länder. Band iv, Heft 1. 8vo. 1895	The Editor

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(a) **Foreign Countries**—*Contd.*	
Guatemala—	
Censo General de la Poblacion de la Republica de Guatemala, Feb., 1893. La. 8vo	The Director-General of Statistics
Italy—	
Annali di Agricoltura, No. 205. Atti della Commissione consultiva per la Fillossera. 1894. Map	The Director-General of Statistics
Annali di Statistica—	
Atti della Commissione per la Statistica Giudiziaria Civile e Penale, 1894	
Statistica Industriale. Fasc. 53–55, maps. 1894–95	
Bollettino di Legislazione e Statistica Doganale e Commerciale. (Current monthly numbers)	
Bollettino del Ministero degli Affari Esteri. (Current numbers)	
Bollettino settimanale dei Prezzi di alcuni dei principali Prodotti Agraria e del Pane. (Current numbers)	
Bollettino Sanitario, Direzione della Sanita Pubblica. (Current monthly numbers)	
Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
Popolazione. Movimento dello stato civile. Anno 1893. 8vo.	
Tabella indicante i valori delle Merci nell' anno 1894 per le statistiche commerciali. 8vo	
L'Economista. (Current weekly numbers)	The Editor
Giornale degli Economisti. (Current monthly numbers)	”
Japan—	
Résumé statistique de l'Empire du Japon. 9ᵉ année [1892–93.] Maps and diagram	The Statistical Bureau
Tokio-Fu. Weekly and monthly reports of Births, Marriages, and Deaths. (Current numbers)	The Governor of Tokio-Fu
Mexico—	
Anuario Estadistico de la Republica Mexicana. Año 1893. No. 1. La. 8vo	The Statistical Bureau
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Royal Agricultural Society. Journal. Third series. Vol. vi, part 1. 1895	"
Royal Asiatic Society. Journal for April, 1895	"
Royal Geographical Society. Geographical Journal. (Current numbers)	"

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* Foreign and Colonial Societies will be found under the various Countries or Possessions to which they belong.

Donations—Contd.

Donations.		By whom Presented (when not purchased).
(e) **Societies, &c. (British)**—*Contd.*		
Royal Institution of Great Britain. Proceedings. Vol. xiv, part 2, No. 88. 1895.		The Institution
Royal Meteorological Society—		
Meteorological Record, for third quarter of 1894 Quarterly Journal. Vol. xxi, No. 94. April, 1895		R. H. Hooker, Esq.
Royal Society. Proceedings. (Current numbers)		The Society
Royal United Service Institution. Journal. (Current numbers)		The Institution
Sanitary Institute. Journal of the Institute. Vol. xvi, part 1. April, 1895		The Institute
Society of Arts. Journal. (Current numbers); also Index to vols. xxxi—xl. (1882-92.) 8vo. 1895		The Society
Surveyors' Institution. Transactions. (Current numbers)		The Institution
(f) **Periodicals, &c. (British).***		
Accountant, The	Current numbers	The Editor
Athenæum, The	"	"
Bankers' Magazine, The	"	"
Bimetallist, The	"	"
British Trade Journal, The	"	"
Building Societies and Land Companies' Gazette, The	"	"
Colliery Guardian	"	"
Commerce	"	"
Commercial World, The	"	"
Economist, The	"	"
Finance Chronicle, The	"	"
Fireman, The	"	"
Insurance Post, The	"	"
" Record, The	"	"
Investors' Monthly Manual, The	"	"
Iron and Coal Trades' Review, The	"	"
Machinery Market, The	"	"
Nature	"	"
Policy-Holder, The	"	"
Review, The	"	"
Sanitary Record, The	"	"
Shipping World, The	"	"
Statist, The	"	"

Periodicals, &c., Purchased.

Annual Register for 1894.
Banking Almanac and Directory, 1895.
British Almanac and Companion, 1895.
Colonial Office List for 1895.
County Councils and Municipal Corporations Companion, 1895.
Financial Reform Almanack, 1895.
Foreign Office List, 1895.
Ham's Customs Year-Book, 1895.

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* Foreign and Colonial Periodicals will be found under the various Countries or Colonies in which they are issued.

Vol. LVIII.] [Part III.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

SEPTEMBER, 1895.

REPORT *of the* COUNCIL *for the* FINANCIAL YEAR *ended* 31*st December*, 1894, *and for the* SESSIONAL YEAR *ending* 25*th June*, 1895, *presented at the* SIXTY-FIRST ANNUAL GENERAL MEETING *of the* ROYAL STATISTICAL SOCIETY, *held at the Society's Rooms*, 9, *Adelphi Terrace*, *Strand*, *London*, *on the* 25*th of June*, 1895.

THE Council have the honour to submit their Sixty-first Annual Report.

The roll of Fellows on the 31st December last as compared with the average of the previous ten years was as follows—

Particulars.	1894.	Average for the previous Ten Years.
Number of Fellows on 31st December	933	992
Life Members included in the above	180	166
Number lost by death, withdrawal, or default	67	65
New Fellows elected	36	75

Since the 1st January last, 31 new Fellows have been elected, and the Society has lost 28 by death or resignation, so that the number at present on the list is 936.

The Society has to deplore the deaths of the undermentioned members since June last year (see next page). The list includes the names of Mr. John Walter, who had been a Fellow of the Society since 1850, and Mr. Hyde Clarke, another old and very active member of the Society, and who had both served on the Council; also of Mr. H. H. Hayter, C.M.G., the Government Statist of Victoria, who was an Honorary Fellow, and a generous donor to the Society's library:—

Deaths of Fellows from June, 1894—June, 1895.

		Date of Election.
p (1)	Avery, Thomas	1870
d	Carmichael, Charles H. E., M.A.	1887
c d p (6)	Clarke, Hyde	1856
d	Farquharson, J. C.	1891
	Fitzgerald, Lieut.-Colonel R. P., J.P.	1892
	Gover, William Sutton, F.I.A.	1853
	Hamilton, Sir Robert G. C., K.C.B.	1894
	Harding, Colonel Charles, F.R.G.S.	1877
d p (1)	Hayter, Henry Heylyn, C.M.G. (*Honorary Fellow*)	1875
d	Hole, James	1892
	Johnston, Thomas	1883
d	Lee, Sir Joseph C.	1886
p (1)	Millar, William Henry	1873
d	Mills, Sir Charles, K.C.M.G., C.B.	1888
	Palmer, Joseph T.	1884
	Pembroke, Right Hon. Earl of	1886
c	Walter, John	1850
	Williamson, John W.	1888

The financial condition of the Society is exhibited in the accompanying table, in which the particulars are contained for the twenty-five years 1870-94.

The papers read and the members elected at each of the monthly meetings have been as follows:—

SESSION 1894-95.

First Ordinary Meeting, Tuesday, 20th November, 1894.

The Right Hon. LORD FARRER, President, in the Chair.

The following were elected Fellows:—

Major-Gen. John F. Crease, C.B.
Edwin Otho Sachs.
William Arthur Shaw, M.A.
Thomas Roberts Watson.
Edward Frederick Williams.

The President presented a gold Guy Medal to Dr. Robert Giffen, in recognition of his special and extraordinary services to statistical science.

The President delivered his Inaugural Address on "The "Relations between Morals, Economics, and Statistics."

A cordial vote of thanks to the President for his Address was moved by Mr. Charles Booth, seconded by Sir Rawson W. Rawson, and carried unanimously.

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c Indicates those who had served on the Council.
d Indicates those who had been Donors to the Library.
p Indicates those who had contributed Papers, with the numbe

Year.	Number of Fellows on 31st December.	Number of Compounders included therein.	Losses during Year by Deaths, &c.	Gains by Election, &c., during Year.	Ordinary Income.	Ordinary Expenditure.	Income from all Sources.	Income from			Total Expenditure.	Expenditure on		Amount Invested on 31st December.	Year.
								Annual Subscriptions.	Compositions.	Journal Sales.		Journal.	Library.		
					£	£	£	£	£	£	£	£	£	£	
1870....	403	62	22	25	852	839	852	670	21	112	839	314	15	1,200	1870
'71....	431	63	17	45	880	793	880	657	63	115	804	317	15	1,200	'71
'72....	454	72	17	40	1,112	805	1,112	739	189	141	991[a]	318	5	1,400	'72
'73....	530	75	34	110	1,231	1,026	1,248	832	189	167	1,284[a]	384	17	1,600	'73
'74....	588	84	35	93	1,377	1,479	1,377	918	252	140	1,491	461	40	1,600	'74
'75....	607	87	31	50	1,231	1,723	1,231	928	105	133	1,733	449	18	1,271	'75
'76....	611	90	46	50	1,438	1,320	1,438	1,054	168	159	1,340	524	75	1,271	'76
'77....	683	101	40	112	1,597	1,285	1,597	1,117	252	151	1,476[a]	474	49	1,471	'77
'78....	746	115	45	108	1,732	1,345	1,732	1,197	294	169	1,849[a]	580	32	2,000	'78
'79....	783	119	52	89	1,698	1,427	1,698	1,300	126	176	1,808[a]	671	34	2,400	'79
1880....	808	129	49	74	1,902	1,517	1,902	1,317	273	202	1,806[a]	573	80	2,700	1880
'81....	807	130	45	44	1,649	1,400	1,649	1,306	84	145	1,697[a]	609	37	3,000	'81
'82....	786	135	63	42	1,838	1,580	1,838	1,291	189	227	1,782[a]	553	60	3,200	'82
'83....	860	139	41	115	1,774	1,635	1,778	1,361	126	150	1,943[a]	585	49	3,500	'83
'84....	909	150	57	106	2,055	1,585	3,146[b]	1,447	294	207	3,088[e]	645	38	2,500	'84
'85....	928	148	55	74	1,812	1,832	2,062[d]	1,462	63	188	2,070[c]	625	27	2,500	'85
'86...	943	156	70	85	2,086	1,842	2,086	1,583	231	180	2,106[e]	735	32	2,500	'86
'87....	977	160	59	93	2,029	1,745	2,029	1,621	126	188	2,135[f]	609	87	2,500	'87
'88....	1,059	172	58	140	2,292	1,939	2,292	1,686	334	171	2,003	711	58	2,500	'88
'89....	1,060	175	69	70	2,115	1,904	2,115	1,678	126	229	2,060[g]	623	146	2,500	'89
1890....	1,063	177	65	68	2,097	1,707	2,097	1,764	84	155	2,096[a]	567	68	2,900	1890
'91....	1,019	172	80	36	1,976	1,744	2,076[h]	1,707	42	146	1,957[i]	582	172	2,900	'91
'92....	994	171	70	45	1,980	1,772	1,980	1,634	84	158	1,883[j]	539	94	2,900	'92
'93....	964	176	66	36	1,904	1,921	1,904	1,560	124	128	1,921	578	63	2,900	'93
'94....	933	180	67	36	1,830	1,904	1,830	1,491	105	152	1,904	649	75	2,900	'94

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[a] Includes purchase of Government stock.

[b] Includes sale of 1,000*l.* stock.

[c] Includes expense of moving to new premises.

[d] Includes Dr. Guy's legacy of 250*l.*

[e] Includes cost of Jubilee Volume.

[f] Includes cost of Catalogue and Index, and of Charter.

[g] Includes cost of part iv of Index to Journal.

[h] Includes Mrs. Lovegrove's legacy of 100*l.*

[i] Includes outlay for Guy Medal and for binding the "Times."

[j] Includes outlay for drainage repairs.

Extra Meeting, Tuesday, 4th December, 1894.

Dr. GEORGE B. LONGSTAFF, M.A., F.R.C.P., Vice-President, in the Chair.

The Hon. Robert P. Porter read a Paper on "The Eleventh "United States Census."

Dr. Herman Hollerith gave a description of the Hollerith Electrical Tabulating Machine.

In the discussion which followed, the undermentioned took part:—Dr. W. Ogle, Mr. N. A. Humphreys, Mr. J. A. Baines, Major P. G. Craigie, Mr. F. B. Garnett, Sir Francis S. Powell, M.P., Mr. R. Price-Williams, Mr. John B. Martin, and the Hon. Robert P. Porter in reply.

Second Ordinary Meeting, Tuesday, 18th December, 1894.

Sir JULAND DANVERS, K.C.S.I., in the Chair.

The following were elected Fellows:—

Alfred Bonnett.
Edward William Brabrook, F.S.A.
Francis C. Drake, B.A.
Sir Robert G. C. Hamilton, K.C.B.
Herman Hollerith, Ph.D.
Edgar Theodore Owen.

Mr. Geoffrey Drage, M.A., read a Paper on "Alien Immigration."

In the discussion which followed, the undermentioned took part:—Mr. F. Hendriks, Hon. R. P. Porter, Mr. H. Moncreiff Paul, Mr. N. A. Humphreys, Mr. S. Bourne, Mr. F. Debenham, Mr. G. H. Perris, Mr. John B. Martin, and Mr. Geoffrey Drage in reply.

Third Ordinary Meeting, Tuesday, 15th January, 1895.

FREDERICK HENDRIKS, Esq., F.I.A., Vice-President, in the Chair.

The following were elected Fellows:—

James Edward Costello.
John Little Green.
James Wilson Huelin.
Cecil Frank Rawson, B.A.
Alfred Walter Soward.
Robert E. Turnbull.
Thomas Henderson Whitehead.
J. G. Willis, B.A.

Mr. L. L. Price, M.A., read a Paper on "The Colleges of "Oxford and Agricultural Depression."

In the discussion which followed, the undermentioned took part:—Mr. R. H. Rew, Right Hon. G. J. Shaw-Lefevre, M.P., Mr. R. E. Turnbull, Mr. F. B. Garnett, Mr. S. B. L. Druce, Mr. A. J. Spencer, Mr. R. C. Richards, Mr. A. E. Bateman, Mr. F. Hendriks, and Mr. L. L. Price in reply.

Fourth Ordinary Meeting, Tuesday, 19*th February,* 1895.

VISCOUNT GRIMSTON, Vice-President, in the Chair.

The following were elected Fellows:—

Howard James Collins.
Thomas Henry Haynes.
Thomas Huggins Nesbitt.
Charles Norris Nicholson.
Robert Edward Phillips.
Thomas Edmund Powell.
Hermann Schmidt.
Willem H. A. Elink Schuurman.
Edward A. Whittuck, B.A., B.C.L.

Señor Don Manuel Fernandez Leal, Secretary of State, Department of "Fomento," Colonization and Industry, Mexico, was elected an Honorary Fellow of the Society.

Mr. R. F. Crawford read a Paper on "An Inquiry into Wheat "Prices and Wheat Supply."

In the discussion which followed, the undermentioned took part:—Mr. A. F. Jeffreys, Mr. A. B. Freeman-Mitford, Mr. R. H. Inglis Palgrave, Mr. J. Barr Robertson, Mr. W. J. Harris, Rev. Canon J. L. Brereton, Mr. H. R. Beeton, Mr. H. Moncreiff Paul, Mr. A. Sauerbeck, the President (Lord Farrer), Major P. G. Craigie, the Chairman (Viscount Grimston), and Mr. R. F. Crawford in reply.

Fifth Ordinary Meeting, Tuesday, 19*th March,* 1895.

FREDERICK HENDRIKS, Esq., F.I.A., Vice-President, in the Chair.

The following were elected Fellows:—

Bernard Clarke.
Stanley Fletcher, A.C.A.
Ernest Montague Leman.
Charles Percy Sanger, B.A.

Mr. Arthur L. Bowley, M.A., read a Paper on "Changes in "Average Wages in the United Kingdom between 1860 and 1891."

In the discussion which followed, the undermentioned took part:—Sir Edward H. Carbutt, Professor A. Marshall, Mr. D. Chadwick, Mr. A. Sauerbeck, Mr. John Glover, Mr. H. Higgs, Mr. A. E. Bateman, and Mr. A. L. Bowley in reply.

Sixth Ordinary Meeting, Tuesday, 23*rd April,* 1895, *held at the* ROYAL UNITED SERVICE INSTITUTION.

CHARLES S. LOCH, Esq., B.A., Vice-President, in the Chair.

The following were elected Fellows:—

William Henry Elwell.
Thomas Enoch Lowe.
Alfred J. Wood.
John Cundell Wood, L.R.C.S. and P., D.P.H.

Mr. Edward W. Brabrook, F.S.A., read a Paper on "Progress "of Friendly Societies and similar Institutions during the Ten "Years 1884-94."

The Rev. J. Frome Wilkinson read a Paper on "Some Illus"trations of Friendly Society Finance."

In the discussion which followed, the undermentioned took part:—Mr. A. H. Bailey, Mr. R. P. Hardy, Mr. E. W. Brabrook, Mr. M. N. Adler, Mr. J. J. Stockall, Mr. R. W. Moffrey, Mr. A. Chapman, and the Rev. J. Frome Wilkinson in reply.

Seventh Ordinary Meeting, Tuesday, 21st May, 1895.

CHARLES S. LOCH, Esq., B.A., Vice-President, in the Chair.

The following were elected Fellows:—

George J. S. Broomhall. | **Gregory Wilenkin.**
George U. Yule.

A Paper by Mr. E. Orford Smith on "Municipal Finance, or "Local Taxation and Local Expenditure, as illustrated by the case "of the City of Birmingham," was read in his absence by the Assistant Secretary.

In the discussion which followed, the undermentioned took part:—Mr. W. Penn-Lewis, Sir Rawson W. Rawson, Mr. A. H. Bailey, Mr. F. Hendriks, Mr. C. Fox, Mr. F. Debenham, Major P. G. Craigie, Mr. R. H. Hooker, and the Chairman (Mr. C. S. Loch).

Eighth Ordinary Meeting, Tuesday, 18th June, 1895.

STEPHEN BOURNE, Esq., in the Chair.

The following were elected Fellows:—

John Arthur E. Burrup. | **Benno Karpeles, LL.D.**
Albert Rawlinson.

Mr. James Barr Robertson read a Paper on "Some Statistics "bearing upon Bimetallism."

In the discussion which followed, the undermentioned took part:—Mr. Leslie C. Probyn, Professor H. S. Foxwell, Mr. John Glover, Mr. Hermann Schmidt, Mr. J. H. Tritton, Mr. Robert Barclay, Mr. A. S. Harvey, Monsieur E. Théry, Sir Guilford Molesworth, and Mr. Barr Robertson in reply.

Two important changes have marked the session 1894-95. The first is the experimental alteration of the hour of meeting from the evening to the afternoon. This change was adopted in consideration of the difficulty experienced by many members, especially those living in the suburbs or at a distance from London, in attending the evening meetings, and also of the fact that engagements in the afternoon are less frequent than in the evenings. 5 p.m., was found to be the most convenient hour, as enabling many Fellows engaged in business to attend the meeting before dinner. The Council are pleased to find, from the numerous expressions of approval they have received, that the experiment has been appreciated, and it is therefore proposed to continue the afternoon meetings permanently.

In this connection the Council would desire to call the attention of Fellows to the desirability of personal attendance at the meetings, and of taking part in the discussions. The change of hour seems to have been practically appreciated in this respect, as the attendance of Fellows during the past session shows a marked recovery over some recent years.

The second important change has been the alteration of the place of meeting, the Society having, through the courtesy of the Council of the Royal United Service Institution, been able to make arrangements for the use of the new and very convenient lecture theatre of that Institution, where the last three meetings of the session have been held.

The Sub-Committee on Papers have undertaken the preparation of a subject index to the last thirty volumes of the *Journal*. This has now been printed, and will be sold to the general public at *1s. 6d.* (*1s.* to Fellows). The special objects in view in the preparation of this index are set forth in the "Introduction," which is here reprinted :—

"The objects of the present Index are to show what original work has been published by the Society during the last thirty years; to classify this work as far as practicable, so as to enable anyone to find at a glance what papers have been read on any given subject; and also to bring out indirectly in some measure what subjects urgently require treatment from the statistical standpoint.

"With this view the Index is divided into three parts :—

"(1.) A *Key*, showing the classification adopted.

"(2.) A *Subject Index*, in which the various papers read are noted (by the author's name only), with a reference to the year and quarter of the year in which the paper is to be found.

"(3.) A *Chronological Index*, in which the full title of the paper appears, with cross references to the *Subject Index* showing under what head or heads each paper has been classified. Many papers, dealing with more than one subject, have been necessarily referred to more than one heading.

"It being impossible to draw any absolute distinction between important and unimportant papers, but necessary to avoid overcrowding, the index has been confined to original work only. Thus all reprints from other Journals, &c., as well as abridgments of Parliamentary reports, have been omitted. Translations have however been treated as original communications, and papers originally *read* elsewhere, but first *printed* in the Journal, are also considered as original. In the *Chronological Index* papers to be found in the Miscellanea are noted in italics. These are usually short, though there are several notable exceptions. The test of originality has been rigorously adhered to: papers which are not indexed will invariably be found to have been first printed elsewhere. The present index is therefore not intended to supersede the Society's *General Index to the Journal*, but to supplement it. It may further be found useful as appearing at a period intermediate between the publication of the parts of the General Index.

"A few blank pages have been left at the end, to enable those who wish it to keep the Index up to date; and sufficient space will be found in the *Subject Index* to enter the paper under its proper head.

"The third point kept in view in the preparation of this Index was, that, showing as it does the subjects already treated by the Society, it should bring into prominence the questions more urgently requiring solution, and lead to their discussion by the Society."

In consideration of his exceptional and long continued services to statistical science, the Council in November last awarded a Gold Guy Medal, under Rule 5 of the Medal Regulations, to Robert Giffen, C.B., LL.D., F.R.S. A silver medal, for the best paper read during the last two sessions, has been awarded to Arthur L. Bowley, M.A., for his paper read in March last, on "Changes in "Average Wages (Nominal and Real) in the United Kingdom "between 1860 and 1891."

Apart from the work of the Society, the most notable event during the past session of interest to statisticians, is the step adopted by Parliament last August, providing that a census of London shall be taken on the 29th March, 1896, in accordance with the provisions of the "London (Equalisation of Rates) Act, "1894" (57 and 58 Vict., cap. 53). The necessity of a quinquennial census has been constantly urged by this Society, and, as noticed in the last Annual Report, a deputation on this subject was received by the President of the Local Government Board so late as June, 1894.

Another noteworthy advance is the creation, at the University of Chicago, of a Chair of Statistics. Courses of statistics have been given in various universities, but hitherto generally in connection with some other science. The professorship lately founded at Chicago is devoted entirely to statistics. The first Professor is Dr. E. R. L. Gould.

In the hope of extending knowledge in this branch of science in this country, the Council of the Society took the opportunity, on the occasion of the establishment of the new Welsh University, to call the attention of the governing body to the desirability of including statistics and economics in the regular course of study to be adopted by that University.

The subject of the Essays for the Howard Medal, which will be awarded in 1896 (with 20*l.*, as heretofore) is "School Hygiene, "in its Mental, Moral, and Physical Aspects." The result of the competition for the Howard Medal of 1895 will be announced at the monthly meeting in November next.

The meeting of the British Association was held last year at Oxford, Section F being under the presidency of Professor C. F. Bastable, F.S.S. An account of the proceedings will be found in the Journal for December, 1894.

The cordial thanks of the Council have been tendered on behalf of the Society to the Auditors for their honorary services in auditing the Treasurer's accounts for the past year.

The following list of Fellows proposed as President, Council, and Officers of the Society for the Session 1895-96 is submitted for the consideration of the meeting:—

COUNCIL AND OFFICERS FOR 1895-96.

PRESIDENT.

THE RIGHT HON. LORD FARRER.

COUNCIL.

*Jervoise A. Baines, C.S.I.
Alfred Edmund Bateman, C.M.G.
Henry R. Beeton.
Stephen Bourne.
Sir Courtenay Boyle, K.C.B.
J. Oldfield Chadwick.
Major Patrick George Craigie.
Frederick C. Danvers.
*Geoffrey Drage, M.A.
*Thomas Henry Elliott.
Frederick Brooksbank Garnett, C.B.
John Glover, J.P.
Viscount Grimston.
The Right Hon. Lord George F. Hamilton, M.P.
Rowland Hamilton.
Noel A. Humphreys.
*Frederick Halsey Janson, F.L.S.
Charles S. Loch, B.A.
Geo. B. Longstaff, M.A., M.D., F.R.C.P.
*John Macdonell, LL.D.
John Biddulph Martin, M.A.
Richard Biddulph Martin, M.A., M.P.
Alfred Milner, C.B., M.A.
Francis G. P. Neison, F.I.A.
William Ogle, M.A., M.D., F.R.C.P.
Thomas J. Pittar.
Sir William C. Plowden, K.C.S.I.
*Sir Francis S. Powell, Bart., M.P.
Richard Price-Williams, M.Inst.C.E.
Robert A. Yerburgh, M.P.

Those marked * are new Members of Council.

TREASURER.

Richard Biddulph Martin, M.A., M.P.

HONORARY SECRETARIES.

John Biddulph Martin, M.A. | Alfred Edmund Bateman, C.M.G.
Major Patrick George Craigie.

FOREIGN HONORARY SECRETARY.

John Biddulph Martin, M.A.

The abstract of receipts and payments, and the balance sheet of assets and liabilities on 31st December, 1894, are subjoined, together with the report of the Auditors on the accounts for the year 1894:—

(I.)—ABSTRACT *of* RECEIPTS *and* PAYMENTS *for the* YEAR *ending* 31*st* DECEMBER, 1894.

RECEIPTS.		£	s.	d.
Balance in Bank, 31st December 1893 ...	£452 18 8			
Balance of Petty Cash.	35 6 3			
" Postage Account	3 8 5			
		491	13	4
Dividends on 2,900*l.* Consols.........		77	5	4
Annual Subscriptions:—				
40 Arrears............	£84 – –			
658 for the year 1894	1,381 16 –			
12 in Advance	25 4 –			
—		1,491	–	–
710				
5 Compositions..........................		105	–	–
Journal Sales		151	17	4
Advertisements in Journal		5	5	–
Total...............		£2,322	1	–

PAYMENTS.		£	s.	d.
Rent	£314 16 11			
Less sublet	79 3 4			
		235	13	7
Rates and Taxes		47	3	9
Fire, Lights, and Water		48	9	9
Repairs, Furniture, &c................		15	2	2
Salaries, Wages, and Pension ...		550	–	–
Journal, Printing......	£597 11 11			
" Shorthand Reporters	37 10 8			
" Literary Services	13 11 –			
		648	13	7
Ordinary Meeting Expenses		32	1	10
Advertising		54	3	9
Postage and delivery of Journals..		69	9	5
Stationery and Sundry Printing...		53	4	11
Library....................................		74	10	7
Guy Medal		24	–	–
Incidental Expenses		51	13	4
		1,904	6	8
Balance per Bank Book	£373 14 8			
Balance of Petty Cash	42 13 –			
" Postage Account	1 6 8			
		417	14	4
Total		£2,322	1	–

(Signed) "J. O. CHADWICK, F.C.A.,
"SAM. DYER NIX, F.C.A., *Auditors.*"
"CHAS. ATKINSON,

"4*th February*, 1895.

(II.)—BALANCE SHEET *of* ASSETS *and* LIABILITIES, *on* 31*st* DECEMBER, 1894.

LIABILITIES.

	£ s. d.	£ s. d.
Harrison and Sons, for Journal	186 11 9	
Miscellaneous, as per list	72 7 10	
		208 19 7
12 Annual Subscriptions received in advance		25 4 -
		234 3 7
Balance in favour of the Society*		6,677 18 8
		£6,912 2 3

ASSETS.

		£ s. d.
Cash Balances		417 14 4
2,900*l.* New 2¾ per cent. Consols cost		2,760 14 5
Property: (Estimated Value of)—		
Books in Library.........	£1,500	
Journals, &c., in Stock	1,500	
Pictures, Furniture, and Fixtures.........	500	
		3,500 - -
Lease of Premises (cost)	500	
Less amount written off for time expired (eleven years)	385	
		115 - -
Arrears of Subscriptions recoverable (say)		90 - -
Sundry debtors		28 13 6
		£6,912 2 3

(Signed)
" J. O. CHADWICK, F.C.A.,
" SAM. DYER NIX, F.C.A., } *Auditors.*"
" CHAS. ATKINSON,

" *4th February*, 1895.

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* This balance is exclusive of the present value of the absolute Reversionary Interest bequeathed to the Society by the late Dr. Guy.

(III.)—BUILDING FUND (ESTABLISHED 10*th July*, 1873), BALANCE SHEET, *on* 31*st* DECEMBER, 1894.

LIABILITIES.

	£ s. d.	£ s. d.
Amount of Fund invested from last Account	243 16 4	
Balance from 1892-93 to be invested	13 16 9	
		257 13 1
Dividends received during 1894......		7 17 4
		£265 10 5

ASSETS.

	£ s. d. Stock.	£ s. d. Cost.
Invested as per last Account in Metropolitan Consolidated 3½ per Cent. Stock, in the name of the Treasurer, Richard B. Martin, Esq., M.P...	232 - 5	243 16 4
Balance from 1892-93 to be invested	13 16 9	
Balance from 1894 to be invested	7 17 4	
		21 14 1
		£265 10 5

(Signed)
" J. O. CHADWICK, F.C.A.,
" SAM. DYER NIX, F.C.A., } *Auditors.*"
" CHAS. ATKINSON,

" *4th February*, 1895.

"REPORT OF THE AUDITORS FOR 1894.

"*The Auditors appointed to examine the Treasurer's Accounts of the Society for the Year* 1894,

"REPORT:—

"*That they have compared the Entries in the Books with the several Vouchers for the same, from the* 1*st January to the* 31*st December*, 1894, *and find them correct, showing the Receipts (including a Balance of* 491*l.* 13*s.* 4*d., from* 1893) *to have been* 2,322*l.* 1*s.* –*d., and the Payments* 1,904*l.* 6*s.* 8*d., leaving a Balance in favour of the Society of* 417*l.* 14*s.* 4*d. at the* 31*st December*, 1894.

"*They have also had laid before them an Estimate of the Assets and Liabilities of the Society at the same date, the former amounting to* 6,912*l.* 2*s.* 3*d., and the latter to* 234*l.* 3*s.* 7*d., leaving a Balance in favour of the Society of* 6,677*l.* 18*s.* 8*d., exclusive of the present value of the absolute Reversionary Interest bequeathed to the Society by the late Dr. Guy.*

"*The amount standing to the credit of the Building Fund at the end of the year* 1894, *was* 265*l.* 10*s.* 5*d., of which* 243*l.* 16*s.* 4*d. was invested in* 232*l.* –*s.* 5*d. Metropolitan Three and a Half per Cent. Stock, in the name of the Treasurer, Richard B. Martin, Esq., M.P., thus leaving a balance of* 21*l.* 14*s.* 1*d. to be invested.*

"*They have verified the Investments of the Society's General Funds and Building Fund, and also the Banker's Balance, all of which were found correct.*

"*They further find that at the end of the year* 1893 *the number of Fellows on the list was* 964, *which number was diminished in the course of the year to the extent of* 67, *by Death, Resignation, or Default, and that* 36 *new Fellows were elected, leaving on the list on the* 31*st December*, 1894, 933 *Fellows of the Society.*

(Signed) "J. O. CHADWICK, F.C.A.,
"SAM. DYER NIX, F.C.A., } *Auditors.*"
"CHAS. ATKINSON,

"4*th February*, 1895.

PROCEEDINGS *of the* SIXTY-FIRST ANNUAL GENERAL MEETING.

The PRESIDENT, THE RIGHT HON. LORD FARRER, *in the Chair.*

The circular convening the meeting was read.

The minutes of the last ordinary meeting were read and confirmed.

The Report of the Council was taken as read.

The PRESIDENT moved: "That the Report of the Council, the Abstract of Receipts and Payments, the Balance Sheet of Assets and Liabilities, and the Report of the Auditors for 1894, be adopted, entered on the Minutes, and printed in the Journal."

Mr. STEPHEN BOURNE seconded the motion, which was carried unanimously.

Mr. JAMES BONAR and Mr. CECIL R. SAUNDERS having been appointed Scrutineers of the Ballot, reported that the proposed list of Council and Officers for the ensuing session was unanimously adopted. The thanks of the meeting were, on the motion of the President, conveyed to the Scrutineers.

The PRESIDENT moved that the following words be added at the end of Rule 8: "unless the Annual Subscription or Composition Fee shall be remitted by the Council; provided that the number of Fellows whose Annual Subscription or Composition Fee shall have been thus remitted, do not exceed five at any one time."

Mr. CHARLES BOOTH, in seconding the motion, said the proposed alteration in the rule was suggested in order that the Society might be able in certain instances to remit the fees of a member who was unable to pay the subscription and yet whose non-membership would be a distinct loss to the Society. Several institutions similar to this Society had such facilities in their rules, and the Council in sanctioning the suggested alteration wished to be able to meet any such cases as might arise.

The resolution was carried unanimously, and the rule thus altered now stands as follows: "RULE 8.—Every Fellow of the Society shall pay a yearly subscription of Two Guineas, or may at any time compound for his future yearly payments by paying at once the sum of Twenty Guineas, unless the Annual Subscription or Composition Fee shall be remitted by the Council; provided that the number of Fellows whose Annual Subscription or Composition Fee shall have been thus remitted, do not exceed five at any one time."

The PRESIDENT formally announced the subject of the essays for the Howard Medal for 1895-96, viz.: "School Hygiene, in its mental, moral, and physical aspects."

The PRESIDENT called the attention of the meeting to what could be done to further the work of the Society during the coming session.

Mr. BOOTH, in explaining why this question, which was unusual, had been raised, said that the Council for the past few years had found that there was frequently a scarcity of papers to be read before the Society, and that in consequence the quality of the contributions had occasionally in a degree suffered through the Council in several cases having either to accept a paper that was not all they would wish it to be, or go without one. Several causes might be given for the scarcity; and the Council about two years ago appointed a small committee to consider the question, and to obtain, if possible, papers on interesting subjects from people likely to assist. While at work in this direction they (the Papers Committee) had had prepared a Subject-Index to the Journal for the last thirty years, which would be found a very useful index, as it showed at a glance what subjects had been studied by the Society since 1865, and the committee hoped that its examination by the Fellows of the Society would lead to offers of papers on those subjects that had not previously been as fully studied as their importance deserved.

Several members of the Society, who were unable to be present at the meeting, had written with regard to this question. Mr. Inglis Palgrave suggested that the Journal should from year to year contain summaries of certain official statistics; also that a balance sheet of the economic condition of the country should be prepared annually, with an estimate of the progress during the previous twelve months. Another suggestion was that there should be an index number prepared, in which the quantity of goods employed as well as the price might be taken into consideration, so as to give a means of checking the index numbers of Mr. Sauerbeck and the "Economist." Mr. Palgrave also suggested that fuller returns of the bank accounts be obtained, and mentioned as a good subject for a paper the effect of taxation on the price of the article taxed, whether this taxation be in the form of import duties on foreign goods or excise duties on home goods. There was also the position of the land tax in England and its incidence owing to economic changes. Another suggested subject for a paper was the effect of a depreciated currency in a country on the quantity and value of goods exported, and the influence on prices of the rate of exchange.

Mr. E. Cannan had also written suggesting that the Society should deal less with the results obtained from statistics and more with the statistics themselves, and that the papers and discussions of the Society should deal with criticisms of published statistics, and contain suggestions for their improvement. It might be pointed out, for instance, that at present there was no proper correlation between the statistics published by different

Government departments, and sometimes even between statistics published by the same department. On this subject he (Mr. Booth) thought there was a consensus of opinion that it would be desirable to follow out that line. He hoped that they would be able to frame a list of subjects suitable for the Society, and be able to induce the men best able to treat these subjects to contribute papers for the meetings and the Journal.

Mr. C. S. Loch, in supporting Mr. Booth's views, said that he was also a member of the Papers Committee. They had done their best to suggest new subjects for papers and to find writers. New demands might now fairly be made on the activity and usefulness of the Society. It was its clear duty, it seemed to him, to promote good methods in statistics at the present time, when the popular use of statistics had so much increased. His wish would be to see special subjects discussed at the Society's meetings by specialists in those subjects, and by other Fellows of the Society whose general opinion, based in many cases upon their daily administrative duties, would be of much value. The committee would be grateful for any suggestions as to subjects for papers; and members of the Society would, they hoped, assist them in obtaining a good audience. The whole question of arrangements for invitations to the meetings was now under consideration. The preparation of a paper involved a great deal of labour, and when the author had to read it to a very small audience, the committee could not but think they had asked him to undertake a thankless task. He hoped that the Fellows of the Society would endorse the views expressed by Mr. Booth, and give them their most active support.

Mr. John Glover said that in considering this subject care had to be taken to distinguish between what was suitable for the Journal and for the Society's meetings, as many subjects suitable for the Journal were not likely to attract a good attendance at a monthly meeting. The Council, by introducing subjects of present interest, and having them treated from the statistical standpoint, would do much to popularise the Society and increase its usefulness. They had had, for instance, a paper on bimetallism at their last meeting, and he could but think that if they had a paper next session on monometallism from an ardent monometallist, there would be a good discussion, and the Society would contribute to the education of the people on this subject. Fellows might have observed also that sometimes at their meetings strong protectionist views had been expressed, and as it could not be denied that they had lived into a completely new set of economic conditions compared with those in which the free trade policy had been enacted, it would seem desirable, even though they might all be convinced free traders, to give an evening to the subject. The present state of affairs may not call for any reconsideration of the doctrine of free trade, but he did not doubt that they would be rendering an important public service if some free trader were to read a paper dealing with the subject in its application to present facts, to the conditions of modern States, and their increasing rejection of the free trade system.

The PRESIDENT (LORD FARRER) said there were many valuable suggestions in the work of the Papers Committee, and he thought they could not do better than to ask the committee to continue its labours on this subject. One of the proposed papers, the effect of alterations in exchange on prices, was deserving of careful statistical treatment. It was all very well to have *à priori* arguments that exchange would have this and that effect, but one would like to know what had been the effect on the imports and exports of a country, of the infinite number of alterations of exchange, and the value of currency.

The PRESIDENT presented a silver Guy Medal to Mr. A. L. Bowley for his paper on "Changes in Average Wages (nominal and real) in the United Kingdom between 1860 and 1891."

Mr. J. A. BAINES, in proposing a cordial vote of thanks to the President, Council, and Officers for their services during the past session, said that all Fellows of the Society must appreciate the efforts and discrimination of the Council in bringing before the Society papers of the interest and value of those which had been read last session. He would especially refer to that by Mr. Bowley. He was sure that the present discussion with regard to the work of the ensuing session, would result in obtaining for the Society papers both popular and of high statistical value.

Mr. W. L. JORDAN seconded the resolution, which was carried unanimously.

Some STATISTICS *bearing upon* BIMETALLISM.

By J. BARR ROBERTSON, ESQ.

[Read before the Royal Statistical Society, 18th June, 1895.
STEPHEN BOURNE, Esq., in the Chair.]

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I.—*Introductory Remarks.*

THE use of gold and silver both as metals and for the purposes of money is as old as history, and no doubt existed in pre-historic times. In every nation of antiquity the precious metals occupied an important place, and in superseding the necessity for the cumbrous method of exchanging products by barter, they materially aided the progress of civilisation and the development of the material resources of the world. To us it is simply inconceivable that the enormous and highly complex transactions which our money system enables us to undertake could be carried on solely by barter. In the earliest ages gold and silver were used as stores of value and as regulators of value, though these functions could only have been performed in a very crude manner even by using both metals. The supply of gold and silver was very irregular, and thus anything like a stable standard of value could not have been attained; but even this very imperfect method of representing the value of commodities and services must have been an enormous improvement on the methods of barter. It is evident, however, that the world benefited in an extraordinary degree from using the two metals as compared with using only one, as the fluctuations in the production of both metals secured a far more stable supply of precious metals from the two than could possibly have been obtained by relying upon either of them alone.

It is not necessary to enter at any length into these fluctuations, as they belong to the history of the precious metals rather than to the modern phase of bimetallism with which this paper is more immediately concerned, but in the isolation of the various countries of the world, and in the absence of international co-operation until within the last fifty years, each nation had its own money system, and regulated the ratios between gold and silver according to its own ideas. Further, the comparatively small amounts of the precious metals that were then being dealt with made it difficult to maintain anything approaching to a stable standard. The relative values of gold and silver fluctuated considerably as well as their quantities, and with the limited amounts in each country that used them as money there were frequent changes in the legal tender ratio.

Until the present century, different countries had usually different ratios, and thus the precious metals moved from one country to another in obedience to the supply of each metal, and in accordance with the different ratios and with changes in the ratios. To take a single instance by way of illustration—the Report made by Sir Isaac Newton[1] in 1717 is an admirable exposition of the causes, at that time as well as in most other periods, of the fluctuations between the values of gold and silver. After showing that in England, in Spain, in France, in Holland and Hungary, and in Italy, Germany, Poland, Denmark and Sweden, there were then in existence five different ratios, and that in India and China silver was much more valuable than gold as compared with the European ratios, Newton remarks:—

"It is the demand for exportation which hath raised the price "of exportable silver about 2*d*. or 3*d*. in the ounce above that of

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[1] See "Select Collection of Tracts on Money," made by J. R. MacCulloch for the Political Economy Club, London, 1856, pp. 274—279.

" silver in coin, and hath thereby created a temptation to export " or melt down the silver coin rather than give 2*d.* or 3*d.* more " for foreign silver, and the demand for exportation arises from " the higher price of silver in other places than in England, in " proportion to gold, that is, from the higher price of gold in " England than in the other places in proportion to silver, and " therefore may be diminished, by lowering the value of gold in " proportion to silver. If gold in England or silver in East India, " could be brought down so low as to bear the same proportion " to one another in both places, there would be here no greater " demand for silver than for gold to be exported to India; and if " gold were lowered only so as to have the same proportion to the " silver money in England which it hath to silver in the rest of " Europe, there would be no temptation to export silver rather than " gold to any other part of Europe. And to compass this last, there " seems nothing more requisite than to take off about 10*d.* or 12*d.* " from the guinea, so that gold may bear the same proportion to " the silver money in England, which it ought to do by the course " of trade and exchange in Europe; but if only 6*d.* were taken off " at present, it would diminish the temptation to export, or melt " down, the silver coin, and by the effects, would show hereafter " better than can appear at present, what further reduction would " be most convenient for the public."

Newton's views sum up the chief issues in regard to the ratios, because he shows clearly that what he desired, and what Europe required in order to keep a fixed relation between gold and silver, was that the various countries should adopt a uniform ratio. He points out that if there had been a uniform ratio in the various markets of Europe, silver would not have been exported in preference to gold; whereas what he complained of was that silver being in England less valuable than gold as compared with the rates ruling on the continent of Europe and in India, the dearer metal, namely, gold, caused the cheaper metal silver to be exported to European markets, where it commanded a larger amount of gold, and thus the export of silver from this country and the import of gold were carried on at a profit. Newton clearly perceived that the solution lay in a uniform ratio amongst the leading countries, just as bimetallists now advocate the adoption of a uniform ratio by the leading countries, and they propose to do it by international agreement, so as to lend greater authority to the establishment of a uniform ratio in each country. Gold monometallism was adopted by England in 1816, and that experiment was apparently successful up to 1873, because the money standard of gold and silver was still maintained by France up till that year, and thus England shared in the benefits of the bimetallic standard, there being no separate gold standard independent of bimetallism. However, since 1873, when France and the other countries of the Latin Union began to restrict the coinage of silver for private holders, and all the leading countries of Europe as well as the United States have followed England's example in adopting the so called gold standard (only they all preserve silver money of unlimited legal tender as well as token silver), the result of twenty-two years' experience is to show that this new experimental system has brought upon the producing and trading classes of the gold money countries of the world the serious disasters which had been so truly predicted, and the demand is made now that the leading countries, including this country, should return to the use of gold and silver on equal terms, as the only solution for the relief of the depression and disaster which have been brought about by the fall in prices, mainly attributable to monetary causes.

II.—*The Production of the Precious Metals and Bimetallism.*

It is often impossible to find a word or phrase that will define with exactness the scope of the subject which it is intended to describe, and the word bimetallism in itself is in no sense a description of what is implied by the term, though the words "monetary bimetallism" might convey a more accurate idea. Nevertheless the word bimetallism has this merit, that it has some relation to the idea of using two metals, and it has been appropriated to a particular money system which can be explained and identified under that name, and thus the word bimetallism, though objectionable from certain points of view, represents a certain money system and no other, and therefore when the bimetallic system is spoken of, there can be no doubt as to what the term is intended to describe.

The need of a money system arises from the vast importance—(1) of a medium in and by which all things can be rated and exchanged, and (2) of a standard of uniformity for past, present, and future value. What has determined the use of gold and silver for these monetary purposes has been their very great suitability for being made into coins or into bars, and also the fact of their being found in quantities large enough to give some reasonable expectation of greater comparative stability in value than could be obtained under any other available system. No doubt it could be shown that gold and silver, either separately or together, have been very unstable in their production, but the experience of the world has recognised that they offered the most stable measure of value that was obtainable, imperfect as that might be. They were, however, only a means to an end, and that end was to provide a standard of as great stability as possible. When the words monometallism and bimetallism are used, it is customary to speak of them as monetary principles, but in reality they are not so. They are merely the mechanical methods by which the monetary principle of a stable standard of value is carried out, and are therefore to be considered and judged by the greater or less success with which they secure a stable standard of value. In this country we speak of the gold standard, as if there was some intrinsic attribute in gold that made it money, but in truth gold is only one of the fittest instruments for the accomplishment of an object with which it has no necessary or absolute connection. We use gold because it suits our purposes in establishing a money system, and we choose silver for the same reason; as silver is also, and has always been, one of the fittest instruments by which we endeavour to maintain the greatest practical stability in our measure of value. Other instruments have been used as the material and form of money. For instance, the world has had endless experience of inconvertible paper money, but hardly a single case can be pointed out where it can be said that paper money has succeeded in maintaining a stable standard of value, and its failure as a money system has almost always been due to the ignorance or dishonesty of the governments issuing it.

The use of gold and silver, or the use of paper, is merely the practical and mechanical method by which the monetary principle is attempted to be carried into effect, and thus gold and silver must be regarded not as ends in themselves, but as the most available means to the end in view. There is not now, nor has there ever been, a scientific money system. Mankind have had to be content with money systems of very imperfect character, simply because no scientific system appeared to be attainable.

Monometallism consists in the use of silver only as the money of both unlimited and limited legal tender, or of gold only as the money of unlimited legal tender with silver for the smaller coins of limited legal tender. For silver monometallism there are three requisites:—(1) Open mints for the metal, (2) unlimited legal tender for the principal coins, and (3) limited legal tender for the smaller coins. The mints are bound to receive all the silver that is offered for coinage either free or at a small fixed seigniorage, and while the larger coins are unlimited legal tender, it is within the discretion of the Government to coin subsidiary coins of limited legal tender for small change as these may be demanded by bankers and others. The principal coins circulate at their bullion value, while the smaller coins circulate at a higher rate than their bullion value, and thus only the principal coins are suited for exportation to other countries, while the smaller coins remain in the internal circulation. In gold monometallism the three requisites are (1) open mints with or without a seigniorage,[1] (2) unlimited legal tender for gold coins which thus circulate at their bullion value, and (3) silver coins for small change with limited legal tender.

The requisites of bimetallism, on the other hand, are (1) open mints for gold and for silver with or without a seigniorage, (2) unlimited legal tender for gold coins and for the principal silver coins, a ratio being fixed as to the relative weights of gold and of silver that are to be coined into a fixed amount of money, and (3) silver coins for small change of limited legal tender to be issued at the discretion of the Government, though the bimetallic principle does not apply to these minor coins. The distinction between monometallism, properly so called, and bimetallism is, therefore, that where the former is used, the nation or nations so using it are tied to the fluctuations in the supply of, and demand for, one metal, whereas in bimetallism the nation or nations using it base their volume of money on the average supplies of the two metals and the demand for them. But whenever bimetallism is effective, the bimetallic standard prevails even in monometallic countries.

While it is common to speak of Europe and the United States as being on the gold standard, it is important to observe that only the United Kingdom, Denmark, Norway, and Sweden have, properly speaking, gold monometallism, while in France, Germany, Belgium, Holland, Switzerland, and the United States, and in a less complete form in Austria-Hungary, Italy, Greece, and Spain the money system is "partial bimetallism." These latter countries have no open mints for silver, but they have the second requisite of bimetallism, namely, unlimited legal tender for the principal silver coins. As these principal silver coins are estimated to amount to about 300,000,000*l.* (see Table IX), this enormous mass of money does duty as gold, and is thus an immense addition to the volume of money which is nominally on the gold standard, but which would not be in existence in these countries if they were not actually on the system of partial bimetallism. So that the prices in this country and on the continent and in the United States are not strictly gold prices, they are the prices of partial bimetallism, because nearly a third of the full legal tender gold and silver money which constitutes the gold standard is in reality silver, without which the volume of the gold standard money would be 300,000,000*l.* less, and the present gold prices correspondingly lower. But under partial bimetallism, as full legal tender silver money has ceased being coined, the additions to or withdrawals from the stock of full legal tender money take place in gold only. The small silver coins of limited legal tender are not taken into account in these observations. It is worthy of notice, however, as showing the power of law under partial bimetallism, that these 300,000,000*l.* of principal silver coins are circulating at their full nominal value as coins, and not one of them can be got for less than its nominal value, and yet the bullion value of the 300,000,000*l.* is not more than 150,000,000*l.* If therefore the power of law is so absolute that the legal ratio of the silver coins to the gold coins is maintained in the case of every single coin, while the bullion value of the silver coins is not more than one half of the money value, it would seem to be easy with a bimetallic system under which the coins would all pass at their bullion value, to keep the silver coins and the gold coins at the legal ratio, if the mints were open to both gold and silver.

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[1] In this country gold is tendered, not at the Mint, but at the Bank of England, which pays at once 3*l.* 17*s.* 9*d.* per standard ounce for all gold tendered, while the Mint coins gold into 3*l.* 17*s.* 10½*d.* per ounce. But the Bank only sends to the Mint sufficient gold to ensure that all demands for coin will be amply provided for, and the remainder it holds in the form of bullion. It is not therefore necessary either under monometallism or bimetallism that gold or silver should all be coined, and under international bimetallism it is highly probable that all the leading countries would adopt for gold and silver the same method of only coining part of the reserves that is pursued by this country at present. Thus all international movements of gold and silver would, as a rule, be made in bullion.

The following table gives in a summary form the production of gold and silver, taken separately and together, from 1501 to 1875, when bimetallism practically ceased. (See Table I for fuller details):—

The World's Production of Gold and Silver. Value per Annum.

Periods.	Gold.	Silver.	Gold and Silver.	Index Numbers.* Annual Production of 1801-20 = 100.	
				Gold.	Gold and Silver.
	£	£	£		
1501–1600....	995,730	2,831,940	3,827,670	49	45
1601–1700....	1,272,650	3,713,520	4,986,170	62	59
1701–1800....	2,650,640	5,322,580	7,973,220	130	94
1801– '20....	2,038,300	6,434,800	8,473,100	100	100
'21– '40....	2,406,725	4,667,275	7,084,000	118	84
'41– '50....	7,638,850	6,867,650	14,506,500	375	171
'51– '60....	27,980,175	8,127,400	36,107,575	1,324	426
'61– '70....	26,511,625	10,975,100	37,486,725	1,306	442
'71– '75....	24,260,350	17,232,450	41,492,800	1,190	489

* The index numbers do not deal with the quantity as between gold on the one hand and gold and silver on the other. They show merely the increase of gold taken by itself, and the increase of silver and gold together, in either case the amount for the period 1801-20 being taken as 100.

As the ideal of economists is to secure a money system that will maintain stability in the average prices of commodities, the practical question between monometallism and bimetallism is which of these two systems produces the most stable measure o value, and thus maintains most satisfactorily the level of average prices.

It will at once be seen from the foregoing table, that from 1500 to 1850 it would have been difficult to supply the arts and carry on the transactions of the world or of Europe merely with gold, so insufficient was the total supply of that metal; but with the addition of the much larger amount of silver it was possible to supply the arts and to maintain a money standard out of the two metals, and thus the large supply obtained from the two together was of the utmost importance to the world during that period.

Further, it will be seen that from 1851 to 1876 the bimetallic system of France and of the other members of the Latin Union very materially modified the effects of the supply of gold from California and Australia, by substituting in the currency of these bimetallic countries a very large amount of gold for a corresponding amount of silver which found its way to the silver money countries. These figures will be more completely dealt with when the operations of the bimetallic system in France come to be considered. In the above table the index numbers show that gold by itself would have been quite insufficient for general gold monometallism up till 1850, while from 1851 till 1870 it increased to about thirteen times as much as at the beginning of this century, and was thus unsuitable for a standard of value. On the other hand gold and silver together increased only about four and-a-half times the amount of their joint production at the beginning of this century, and this was the amount which actually entered into the bimetallic standard from 1850 to 1870. Even with the smaller increase of gold and silver together, general prices rose considerably, and if gold monometallism had prevailed, the rise in the gold prices of commodities would have been several times as much as actually took place, and thus gold alone would have altogether failed as a standard of value by the very excess of its production. Under the bimetallic system, from 1785 to 1873 there was a fixed par of exchange between gold and silver in the leading centres of banking and trade throughout the world, and the ratio between gold and silver in this country, where silver was not legal tender, varied only within very narrow limits; whereas, since the suspension of bimetallism, the ratio between gold and silver has diverged from 15½ to 1 to as high a point as 34 to 1. There were therefore five factors in the bimetallic system in France which gave much greater stability to prices than gold monometallism could possibly have done, namely, (1) the larger quantity of gold and silver together forming a single money standard and giving a larger basis for the range of prices of commodities in general; (2) the greater stability of the joint production of gold and silver in relation to the increase of commodities as compared with the far less stable production of gold alone; (3) the complete stability of the legal ratio between gold money and silver money in the western world, and a fixed par of exchange between gold and silver all over the world, as compared with the enormous divergence between gold and silver since 1873; (4) the greater stability in general prices of commodities under bimetallism before 1873 than under gold monometallism or partial bimetallism since 1873; and (5) perfect stability as between the moneys of silver monometallism, gold monometallism, and bimetallism in Europe and the United States, and relatively identical prices in international trade all over the world, whether quoted in silver, in gold, or in bimetallic money, with temporary fluctuations in the relative values of gold and silver due to the cost of automatically distributing the metals over the various countries of the world. Against these five important advantages of bimetallism over gold monometallism from 1801 to 1873, there is not one single point in which gold monometallism would have been equal or superior to bimetallism during this period in producing stability of general prices. When therefore the question is considered as to how to secure a mechanical method by which stability of prices will be best attained, the conclusion is irresistible that as between gold monometallism and bimetallism, the latter proved itself in France to be by far the more equitable and the more practicable method of attaining the object in view.

III.—*Bimetallism in France.*

During the present century bimetallism has shown itself in complete operation in France, and the leading features of the system can best be illustrated from French experience. In the year 1785 France adopted for money purposes the ratio of 1 oz. of gold as the equivalent of 15½ ozs. of silver, and afterwards confirmed it by the Act of 1803. For reasons that will appear in the course of this paper, the bimetallic system of France stood between the gold monometallism of England on the one hand, and the silver monometallism of Germany and other silver money countries in Europe and in the East on the other, and up till 1873 the bimetallic system enabled fixed pars of exchange to be maintained between all these countries. As silver was produced at the beginning of this century in three times as great a quantity as gold, France maintained the balance between the metals by coining both into money of unlimited legal tender, while England coined gold only.

The most important point in the controversy in regard to bimetallism in France during the present century, is the question whether the ratio of 1 to 15½ between gold and silver was successfully maintained. Enormous masses of statistics have been collected to show that the ratio failed to be maintained, but the actual experience of France, when set forth intelligently and in detail, will amply demonstrate the complete success of the bimetallic system in maintaining the ratio and in providing the best supply of metallic money obtainable. The first important fact to be taken from French experience is that from 1795 to 1878 and from 1879 to 1894, a period of one hundred years, France coined both gold and silver at the legal ratio in the proportions set forth in a condensed form in the following table, the full details being given in Table III:—

FRANCE.—*Total Coinage for One Hundred Years, from* 1795 *to* 1894.

[Converted at 1*l.* = 25 frs.]

Periods.	Number of Years.	Gold.	Silver.	Total Gold and Silver.
		£	£	£
1795–1802........	8	—	4,249,488	4,249,488
1803– '14........	12	23,053,928	37,198,240	60,252,168
'15– '21........	7	11,989,379	9,173,860	21,163,239
'22– '29........	8	2,841,787	35,283,335	38,125,122
'30– '52........	23	27,158,518	94,901,660	122,060,178
'53– '64........	12	191,365,431	5,750,743	197,116,174
'65– '78........	14	91,264,034	33,920,744	125,184,778
	84	347,673,077	221,478,070	568,151,147
1879– '94........	16	8,016,361	1,068,887	9,085,248
	100	355,689,438	221,546,957	577,236,395

It will be observed that after the return to specie payments in this country in 1820 to 1823, France coined only a limited amount of gold, because this country imported gold only for the purpose of coinage, and the total supply from the mines was so limited that there was but little gold left for France, and it imported chiefly silver. Of this entire coinage, however, of gold and silver, every coin was struck at the mint at the ratio of 1 to 15½. France is known to have possessed during the present century, and possesses still, the largest amount of coined money per head of the population of any country in the world, and thus it cannot by any possibility be alleged that under the bimetallic system France suffered from any deficiency of metallic coin as compared with other countries. If, therefore, France coined these enormous amounts of gold and silver at the ratio of 1 to 15½, and not a single coin (except for small change) at any other ratio, this establishes beyond all possibility of doubt that under bimetallism France secured automatically, and by merely keeping its mints open, its full supply of gold and silver money at the legal ratio until the coinage of 5-franc pieces was suspended in 1878.

It may be well to point out here that a mistake was committed in the French law of 1803 which provided for the smaller silver coins of 2 frs., 1 fr., 50 centimes, and 25 centimes, being issued from the mint of the same fineness, namely nine-tenths, as the 5-franc pieces. These small coins were also unlimited legal tender, and when gold flowed freely into France and silver was wanted for export, these small coins were gathered up and exported to such an extent as to cause, to the French people, the serious inconvenience of a dearth of small change. This unfortunate defect in the French system, which existed also in our system previous to 1816, has been treated as if it was a consequence of bimetallism. In 1864, however, the law was altered, so that all the silver coins of lower denomination than 5 frs. were recoined at 835 fine per 1,000, instead of 900, at which the 5-franc pieces continued to be coined. But the change to 835 fine had no effect whatever on the ratio of 1 to 15½ for full legal tender coins, it was merely an improvement in detail derived from the example of our own country.

Elaborate tables have been produced to show that the ratio in London, in Paris, in Hamburg, and other places rarely or never coincided with the ratio of 1 to 15½, and of course there is some truth in this. It is well known that in Paris gold and silver have often been both at a premium in legal tender money at the same time, and at other times one metal has been at a premium when the other was at par. But it must be evident on the most casual consideration that the so-called market ratio between gold and silver, and the existence of a premium on gold or silver or on both, had nothing whatever to do with bimetallism. The Act of 1803 bound the French mint to receive all the silver and all the gold that might be offered on the following conditions:—That the kilogramme of silver should be coined into 200 frs. (of 5 grammes to 1 fr.) and the kilogramme of gold into 3,100 frs. (that is 15½ times the number of francs as compared with the same weight in silver) all at 900 fine, at a different seigniorage for each metal, and that all the coins should be unlimited legal tender. Under such conditions, it was manifestly impossible that the French mint should concern itself with premiums, whether these were current in France, in London, or in Hamburg, as it merely carried out the law that required it to coin all silver and gold brought to it. If the precious metals were not tendered, it did not coin. If they were tendered, it coined them in accordance with the legal ratio, which permitted of no premium or agio whatever. Moreover, whatever the premium, the purchasing power of coins of either metal remained unchanged in the money transactions of the French people.

The detailed tables of premiums given by Dr. Giffen,[3] Mr. Henry Hucks Gibbs,[4] and other writers, are very interesting in themselves, and are valuable statistics for special investigators as well as for general readers, but these premiums did not in any way affect the bimetallic ratio in France, which never changed from the legal proportion of 1 to 15½. If the market ratio was more favourable to the holders of gold or silver than the legal ratio, no one would take gold or silver to the mint. On the other hand, no holder of gold or silver would part with it for less than the mint price, and thus gold or silver bullion could not fall to a discount in legal tender money in the Paris market. If one metal rose to a premium in that market, the cause of that premium could only be that gold or silver was in demand for bullion purposes at a higher price than the mint price. It would have been simply impossible for the market ratio between gold and silver always to have corresponded with the legal ratio. If that had been the case, the trade in bullion, always of very large dimensions, could have had no existence. There would have been no margin of profit in dealing in or in exporting or importing gold or silver. The very existence of bullion dealers and of a bullion market was a proof that there were different prices in the bullion market from those at the mint. There was therefore very frequently a premium on gold and on silver in order to make it possible for these metals to be moved from one country to another, because gold or silver could not thus be transported unless there was a premium on the metal, for the obvious reason that the bullion dealer would not operate unless he could cover the expenses of transport and have some small profit besides.

Elaborate graphic representations of the bimetallic experience of France have also been produced by writers but very imperfectly acquainted with the subject, and on these the commercial ratio between gold and silver is shown apart from the line representing the legal ratio, so that the conclusion drawn from them by the writers is that practically the legal ratio never coincided with the market ratio. Yet from 1795 to 1878 France coined 568,151,000*l.* of gold and silver money, all of which was tendered at the mint price, and coined at the legal ratio, with the exception from 1864 of the subsidiary coins; and the bulk of this coin remained in circulation and prevented the market price of bullion from differing, except temporarily, from the legal ratio. According to the graphic representations, the actual market prices of gold and silver in legal tender money never coincided with the mint prices, so that sales at the market prices ought, during practically the whole of the time, to have given a larger return in legal tender money than the mint price. A glance at Table III, giving the French coinage from 1795 to 1894, will show that both gold and unlimited legal tender silver were coined in every year from 1803 to 1878, except during the years 1871 and 1872, when specie payments were temporarily suspended and gold was not coined, though silver was coined. How then could it have been possible for France to have had tendered and to have coined 568,151,000*l.* of gold and silver at the ratio of 1 to 15½ if the market ratio scarcely ever coincided with the legal ratio? It is evident that there has been an enormous oversight in these calculations to the amount of nearly the whole of the coinage, and this entirely vitiates the whole of the graphic representations in their bearing upon bimetallism.

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[3] See "The Case against Bimetallism," 1892, pp. 225—234, in which the premium on gold in Paris is tabulated for one day in each month from 1820 to 1847. One single quotation is as high as 2·1 per cent., and another at 2 per cent., while the great proportion are under 1 per cent.

[4] In "A Colloquy on Currency," 1894, Table G, in which Mr. Gibbs quotes a premium on gold and on silver in Paris in nearly every month from 1821 till 1873, thus clearly demonstrating the error of supposing that the premium was, during any one period, confined to only one metal.

It ought to be pointed out that while the kilogramme of silver was coined into 200 frs., and the kilogramme of gold into 3,100, that is at the ratio of 1 to 15½, yet while coinage was gratuitous in 1795, there were, owing to the introduction of a seigniorage, and to changes afterwards, various mint prices for gold and silver from 1803 to 1878, as the following table will show, though no change in the ratio of coinage or of legal tender.

FRANCE.—*Mint Charges and Mint Prices for Gold and Silver.*

	Mint Charges per Kilogramme.		Mint Payment per Kilogramme.		Ratio of Payment per Kilogramme.	
	For Silver.	For Gold.	For Silver.	For Gold.	Gold.	Silver.
	frs.	frs.	frs.	frs.		
1803	3	9	197	3,091	1	to 15·69
'35	2	6	198	3,094	1	„ 15·626
'49	1½	6	198½	3,094	1	„ 15·587
'54*....	1½	6·70	198½	3,093·30	1	„ 15·583

* The figures for 1854 continued until the suspension of the right to tender silver for coinage in 1876, and they still remain in force for gold. (See Table VI in Appendix.)

Notwithstanding these changes in the seigniorage or mint charges, the metals were coined at the legal ratio of 1 to 15½ during the whole period, and at this ratio the French mint attracted all the gold and silver that France required for money so as to maintain the general level of its prices of commodities in international trade at the same relative level as those of gold monometallism in England on the one hand, and of silver monometallism in Germany and the East on the other hand. Without the bimetallic system in France, gold prices and silver prices must inevitably have parted company, as has happened since 1873, or rather there never could have been at any time a constant level of prices between gold money countries and silver money countries. It is further to be noticed that with an increase in the production of gold in the world, France was bound to take more gold into its circulation, while with an increase in the production of silver, it was bound to take more silver into its circulation. When gold fell off in production the proportion of gold in the French circulation diminished, and when the production of silver fell off the proportion of silver in the circulation diminished. Further, if gold was produced in excess, the tendency in France was to import gold and to drive silver abroad to the silver money countries, and when silver was produced in excess, the tendency was to import silver and to drive gold abroad to the gold money countries.

One of the conspicuous merits of bimetallism is that it admits of very wide changes in the proportions of gold and silver in circulation, and thus adapts itself to changes in the supplies of the precious metals, and this advantage will always be obtained under bimetallism so long as both gold and silver remain in circulation, as was the case in France during the whole bimetallic period. Whether there is a large amount of gold in circulation, and a small amount of silver, or a small amount of gold and a large amount of silver, is not material. In either case the bimetallic standard will be maintained, because gold and silver money are equally legal tender. It is argued by writers on this subject that the French ratio was a failure, because that ratio did not prevail in the world's markets at all times. Outside of the mints, silver and gold had market values which were necessarily different from the mint rates in countries with bimetallism at 1 to 15½, because the metals in the markets must have been owned by bullion dealers for whom a fixed ratio of 1 to 15½, or any other fixed ratio, would have been impossible, seeing that there could have been no profit in dealing in the precious metals if their values had been confined always and everywhere to the mint prices.

It is thus manifest that outside of the bimetallic mints the exact mint prices could not have been maintained, as shipments of silver coin or bullion could not have been made from France to another bimetallic country, or of gold to a gold money country, or of silver to a silver money country, unless the market price was different from the mint price. It hardly needs to be demonstrated that if a bullion dealer drew from the bank of France 1,000,000 francs in gold coin and 1,000,000 francs in 5-franc pieces, and forwarded them to Rome, where they would be legal tender for 2,000,000 francs and no more, the transaction would be commercially impossible unless the Paris exchange on Rome offered a premium above the mint price, namely a premium that covered the expenses of transit to Rome and gave some small profit in addition. We are all familiar with the bullion points which mark the limits of the rates of our exchanges with other countries. Gold or silver may be exported or imported if there is a margin of profit after paying the cost of transit, and this means that in order that international trade may be carried on, and that the precious metals may find their way to the countries using them, when conditions favour such movements, it is indispensable that the foreign exchanges should be subject to considerable variations in order that gold and silver may be distributed, and the general bullion level of both metals may be maintained all over the world.

It is a complete mistake therefore to assume, as many writers have done, that because under the bimetallic system gold has been frequently at a premium in Paris in legal tender money, and silver at a premium at other times, or both of them at a premium, the French ratio was therefore a failure. As a matter of fact gold coin in the hands of dealers commanded a premium over gold coin in the hands of bankers, because the dealers only operate when they can make small profits by importing or exporting the precious metals, whereas ordinary bankers confine their operations to holding in their coffers, or receiving or paying out, gold and silver coin, but they do not deal in money as if it were bullion in the way in which bullion dealers are accustomed to do. Banks pay the charges of moving bullion or coin from one city to another out of profits, as these are part of the charges of the banking business, but the bullion dealer must defray his charges out of a premium on the metal, as that is his only source of gain. Outside of the operations of the mint, gold and silver are dealt in at market rates without regard to the legal ratio, because bimetallism is connected only with the gold and silver coined or tendered for coinage, or held in banks like the Bank of France as a reserve of potential coin, and even with coins it is not concerned when these are segregated by bullion dealers from the money of the country for the purpose of being exported. Under the bimetallic system precious metals could neither be imported into France nor exported from it to another bimetallic country at the fixed mint price, or at the fixed ratio. The expenses of importing had to be deducted from the mint value of the precious metals which were imported, and the expenses of exporting had to be added to the mint price of the metals which were exported.

Thus the *raison d'être* of the French ratio was that it should apply absolutely at the French mint, and absolutely in regard to coins of unlimited legal tender so long as they continued to perform their function as money. But the moment the bullion dealer laid hands upon coins to export them, there must have been some inducement in the form of profit which could not be obtained so long as the coins remained in the internal circulation at the legal or money ratio, and his action took the coins out of the category of French money and of the French mint prices and treated them as bullion. So far as gold and silver in France might be in bullion, they were subject, whether in the Bank of France or in other hands, to commercial conditions, and were not controlled by the ratio, though they could always be tendered and coined at the mint at the legal ratio. At the same time, as the gold and silver coins could always be melted down, and as bullion coming into the country would be sold in the market and not tendered at the mint if the market price was higher than the mint price, it was difficult for the bullion price in France or in other countries to diverge very far or very long from the mint price, at and around which the values of the metals as bullion always tended to centre.

But bimetallism gave France an advantage that is wholly wanting under monometallism. The Bank of France and every other French bank had the power to make their payments in either gold or silver coin, and thus if either metal was at a premium in legal tender money, the banks had the power to pay in the coin of the other metal, not because it was cheaper, seeing that it never was cheaper, but because it discouraged the export of French coins. They were thus enabled to stop the coins of one or other metal from being exported, or at least exportation of coins was rendered difficult owing to the trouble and expense of gathering up coins through agents or brokers. The Bank of France sold both gold and silver bullion at a premium, but it never sold, nor does it now sell, coins at a premium, because coins are money; while the Bank of England, which must pay in gold coin when it is demanded, sells only gold bullion at a premium. This power in the hands of the French banks of paying in the money of either metal, tends to preserve greater stability in the French money system than is the case in this country, and the rate of discount of the Bank of France is subject to much less change than is the case with the rate of the Bank of England.

It has already been shown that the countries in Europe and the United States, under partial bimetallism, have in circulation about 300,000,000*l.* of silver money of full legal tender, and although these coins are intrinsically as bullion worth only one half of their value as money, yet it is impossible to secure any of these coins for less than their full legal tender value, and nowhere can they be refused in payment, and nowhere have they ever failed in maintaining their full money value. It is scarcely necessary to observe that this was also the experience of France from 1785 to 1873 under complete bimetallism, when the bullion value and the money value of the coins were the same, so that no French bank, merchant, manufacturer, landowner, or private individual ever found a premium or a discount in his dealings with gold and silver money. During the bimetallic period the entire business of all classes of Frenchmen was carried on with as complete unity of value between gold and silver money, as if it had been gold money or silver money only.

In 1873, however, France began to interfere with bimetallism by limiting the amount of silver to be coined daily at the mints, and in 1876 it decreed that silver should no longer be received for coinage, though in 1877 and 1878 it continued to coin 5-franc pieces out of silver that had been deposited for coinage previous to the passing of the Act of 1876.[5]

It is evident therefore that (1) from 1795 to 1878 France coined 568,151,000*l.* of gold and silver money without any relation whatever to premium or discount, (2) that gold money and silver money were always of exactly the same value in the money transactions of the entire French people during this whole period, and (3) that there was frequently an agio or premium of greater or less amount on either or both metals, whether coined or uncoined, when wanted for bullion purposes, but this was entirely a question for the bullion dealers, and was practically unknown to Frenchmen in their money transactions.

Thus it is conclusively demonstrated that France succeeded absolutely in upholding the bimetallic system from 1785 to 1873, because it maintained during the whole period open mints for both gold and silver at the legal ratio, and received and coined both gold and silver every year, and because it kept gold and silver together in circulation during the whole of the time as a single money, thus securing complete legal tender value for gold money and silver money always and everywhere throughout the length and breadth of France.

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[5] "The Ministerial Decision of 6th September, 1873, which limited the daily "coinage of 5-franc pieces to 200,000 frs. for Paris, and to 80,000 frs. for Bordeaux, "as well as that of 17th November, 1873, which reduced the amounts to 100,000 frs. "for Paris and 50,000 frs. for Bordeaux, were merely precautionary measures. The "suspension of the right to tender silver for coinage was declared by the Decree of "6th August, 1876, by which the Law of the 5th of the same month was carried "into execution. All the 5-franc pieces struck in 1877 and 1878 were coined out "of silver that had been deposited for coinage previous to 4th July, 1876."—*Note* by M. A. de Foville, Director of the French Mint.

IV.—*Movement of the Precious Metals in France under Bimetallism.*

The extraordinary services that French bimetallism rendered to the Western world, and also to the Oriental countries, deserve to be set forth in detail, in order to show the enormous power of the bimetallic principle. All are agreed that the prices of commodities which enter into international trade tend to be on the same relative level in all countries which have the same monetary standard. The prices of commodities cannot long remain at a higher level in one country than another, as gold or silver will flow from a country where prices are high to a country where they are low for the purchase of the cheap commodities. The foreign rates of exchange in the country where prices are rising will fall until it becomes profitable to ship bullion, and the withdrawal of the bullion will tend to lower the high prices, while the arrival of the bullion in the country of cheap prices will tend to raise the prices of the cheap commodities for export to the countries where prices are high. The withdrawal of the bullion will, as has been stated, tend to lower prices, but the arrival of the goods bought with the bullion at low prices will, on the other hand, increase the stock of goods, and assimilate prices to the general relative level in other countries.

Gold and silver are moved from country to country and distribute themselves automatically under the influence of the international exchanges. In some countries the foreign exchanges in terms of their own money are rising and specie is flowing in. In others the exchanges are falling in terms of their money, and specie is flowing out to other countries. One of the conspicuous advantages of bimetallism is that it enables a par of exchange between gold and silver to be maintained with only slight variations above or below the fixed par as if there was only one metal. So that bimetallism not only provided a fixed par of exchange between the two metals in France itself, but it enabled England with its gold standard to have a par of exchange with Germany, India, China, and other countries, which were on the silver standard, so that the coinages of the gold money countries, the bimetallic money countries, and the silver money countries were all from 1785 to 1873 on the bimetallic standard as one money system at the ratio of 1 to 15½. The statistics of France in regard to the import and export of the precious metals are singularly instructive in this regard. The following table summarises the official statistics of the net imports and net exports of gold and silver in various periods from 1815 to 1894, full details of which and of the gross imports and gross exports will be found in Table IV in the Appendix:—

FRANCE.—*Net Imports and Exports of Gold and Silver.*

Various Periods.	Years.	Gold.		Silver.		Total of Gold and Silver.	
		Net Imports for the Period.	Net Exports for the Period.	Net Imports for the Period.	Net Exports for the Period.	Net Imports.	Net Exports.
		£	£	£	£	£	£
1815–21	7	—	—	—	—	—	5,840,000
'22–29	8	—	—	—	—	36,600,000	—
'30–52	23	3,600,000	—	91,760,000	—	95,360,000	—
'53–64	12	117,480,000	—	—	68,920,000	48,560,000	—
'65–78	14	132,420,000	—	70,840,000	—	203,260,000	—
'79–94	16	22,440,000	—	20,840,000	—	43,280,000	—
		Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.
1815–21	7	—	—	—	—	—	834,286
'22–29	8	—	—	—	—	4,575,000	—
'30–52	23	156,522	—	3,989,565	—	4,146,087	—
'53–64	12	9,790,000	—	—	5,743,333	4,046,667	—
'65–78	14	9,458,571	—	5,060,000	—	14,518,571	—
'79–94	16	1,402,500	—	1,302,500	—	2,705,000	—

It may be stated that from 1864 to 1878 the stock of gold in the Bank of France increased by 37,000,000*l.*, and the stock of silver by 35,000,000*l.*, making a total increase of 72,000,000*l.* during that period (see Table V in Appendix).

In the summary table of the French coinage it has been shown that from 1795 to 1802 4,249,488*l.* of silver was coined, but during this period no gold was coined, and the currency of England was paper money. From 1803 till 1814 the tables of coinage give us some definite idea of the movements of the precious metals, as during that period 23,053,928*l.* of gold and 37,198,240*l.* of silver were coined, so that in the absence of the figures of French exports and imports separately for gold and for silver, this indicates with perfect certainty that there was in France a considerable movement in gold as well as in silver.

From 1815 till 1821 the total coinage of gold was 11,989,379*l.*, and the total coinage of silver was 9,173,860*l.*, while in the table of imports and exports it is shown that the net export of gold and silver together during these years was 5,840,000*l.*, or 834,286*l.* per annum.

In the next period, from 1822 to 1829, the total coinage of gold was 2,841,787*l.*, and the total coinage of silver 35,283,335*l.*, and during this period the coinage of gold began to fall off, and the coinage of silver began to increase, because at this time England had fairly passed on to the single gold standard and was coining gold only, whereas France was coining both gold and silver, so that only an insignificant amount of gold came to the French mint, while the amount of silver tendered for coinage considerably increased, the average production of silver being at this time more than twice the amount of that of gold. The net imports of gold and silver in this period were 36,600,000*l.* sterling, or 4,575,000*l.* per annum. As gold and silver are not however given separately, the effect of the adoption of the gold standard by England on the imports and exports of France cannot be dealt with in exact terms.

Passing to the period from 1830 to 1852, the following are the figures of the coinage, and also the imports of gold and silver separately:—

FRANCE.—*Coinage and Net Imports of Gold and Silver.*

	Gold Coinage.	Silver Coinage.	Total Coinage.	Gold. Net Imports.	Silver. Net Imports.	Gold and Silver. Total Net Imports.
	£	£	£	£	£	£
1830–52, 23 years	27,158,518	94,901,660	122,060,178	3,600,000	91,760,000	95,360,000
	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.
	1,180,805	4,126,159	5,306,964	156,522	3,989,565	4,165,087

During this period the net imports of gold were very limited, while the net imports of silver amounted to 91,760,000*l.*; and here it may be remarked that if France had followed England by adopting the single gold standard, these 91,760,000*l.* of silver which were added to the money standard of Europe and the United States through French bimetallism, would not have been so added, and consequently France would have been under the necessity of entering upon a struggle with England for the possession of a very large portion of the gold which England was able to appropriate to itself in consequence of bimetallism in France. It is hardly possible to conceive that gold monometallism could have survived during this period, if about 90,000,000*l.* of the money in circulation in Europe had been demonetised and thus withdrawn from the monetary function. It is evident, therefore, that during this period English monometallism was only possible because French bimetallism added 90,000,000*l.* of silver money to the money standard of Europe, and thus so far as English currency was concerned these 90,000,000*l.* of silver performed the same function as if they had been gold.

For the next period of twelve years, from 1853 to 1864, the following are the figures of the coinage, the net imports and the net exports:—

FRANCE.—*Coinage, Net Imports and Net Exports of Gold and Silver.*

	Gold Coinage.	Silver Coinage.	Total Coinage.	Gold. Net Imports.	Silver. Net Exports.	Gold and Silver. Total Net Imports (deducting Exports of Silver.)
1853–64, 12 years	£ 191,365,421	£ 5,750,743	£ 197,116,164	£ 117,480,000	£ 68,920,000	£ 48,560,000
	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.
	15,947,118	479,288	16,426,346	9,790,000	5,743,334	4,046,667

During this period a great change presented itself in the relative production of gold and silver. It was the golden age of California and Australia, and the production of gold increased to an amount unexampled in the previous history of the world. The supply of gold, which ever since the resumption of specie payments under the Acts of 1816 and 1819 had been so deficient that an enormous quantity of silver required to be added to the European currencies in order to maintain even the low level of prices during most part of the time, now became so great that it threatened to revolutionise the distribution of wealth in the world through the medium of an enormous decrease in the purchasing power of gold. It has been shown that if gold monometallism had been adopted by France as it was by England, it would have been absolutely disastrous from 1830 to 1852 owing to the scarcity of the metal, and now it will be shown that gold monometallism would have been equally disastrous from 1853 to 1864 owing to the abundance of gold as compared with the former supply of both metals. Indeed the increase of gold became so alarming that Chevalier and others of his countrymen urged in the strongest manner on the French Government the necessity of demonetising gold, as it was rapidly becoming altogether unsuitable for a standard of value, and would thus soon prove disastrous to the economic constitution of society. It was believed that this was only the beginning of an era of still greater expansion in the production of gold. In the twenty years from 1851 to 1870 the average production of gold per annum was thirteen times what it had been on an average from 1801 to 1820, and more than eight times what it had been in the fifty years from 1801 to 1850.

Had France demonetised gold in response to the urgent appeals of Chevalier and others, it is difficult to imagine what would have happened to gold monometallism in England. For the time, and at least until the rich gold placers should have been exhausted, prices of commodities must have gone up in an extraordinary degree. But France did not demonetise gold, and again through the action of bimetallism the effects of the superabundance of gold were very materially mitigated. The net imports of gold into France during this period were 117,480,000*l.* sterling or 9,790,000*l.* per annum, but France did not absorb that amount of the precious metals, because it will be seen that it exported 68,920,000*l.* of silver, or 5,743,334*l.* per annum, and consequently the net absorption in France of the precious metals during these twelve years was only 48,560,000*l.* or 4,046,667*l.* per annum. Thus when gold was produced in alarming abundance, France was able to take silver out of its stock to this enormous extent, send it abroad, and thus relieve the gold money countries and bimetallic countries from the extraordinary pressure of the new supplies of gold. With gold monometallism in France this would have been impossible, whereas with bimetallism France was able to mitigate in a very marked degree the effect of the excessive supplies of gold. By spreading over the silver money countries a very large amount of silver taken out of its own stock of the metal, France materially reduced the quantity of money that would otherwise have been in the European circulation. But for bimetallism, England would have had to absorb a much larger amount of gold than it really required to take, whereas, owing to the influence of the French ratio of gold to silver, and the consequent fixed par of exchange between the two metals all over the world, the pressure of the superabundance of gold was borne in equal relative proportion by the silver money countries of Europe and the East, and the bimetallic money countries and the gold money countries of the West. In the metallic money countries both in the East and in the West prices of commodities entering into the foreign trade remained all on the same level, because France was able, by its wisdom and foresight in providing for the contingency of excessive expansion in the production of gold, to summon not only large populations in Europe, but hundreds of millions of people in the East who possessed no gold money, to mitigate the effects of the new flood of gold by taking away silver, and thus reducing the volume of money which would have come into circulation in Europe and the United States had bimetallism not existed.

Passing now to the remaining period of bimetallism in France, viz., 1865 to 1878, in which latter year 5-franc pieces ceased to be coined, although the first step towards the suspension of their coinage took place in 1873, the following figures show the coinage and the net imports of gold and silver:—

FRANCE.—*Coinage and Net Imports of Gold and Silver.*

	Gold Coinage.	Silver Coinage.	Total Coinage.	Gold. Net Imports.	Silver. Net Imports.	Gold and Silver. Total Net Imports.
1865-78, 14 years	£ 91,264,034	£ 33,920,744	£ 125,184,778	£ 132,420,000	£ 70,840,000	£ 203,260,000
	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.
	6,518,859	2,422,910	8,941,769	9,458,571	5,060,000	14,518,571

It will thus be seen that in addition to importing during these fourteen years 132,000,000*l.* of gold, France also imported 71,000,000*l.* of silver, so that here again France added 71,000,000*l.* to the volume of money in Europe which could not have been added if bimetallism had not existed. It may be stated, however, that there was less silver in France in 1873 than there was in 1853, so that it was not the excess of silver that caused France to take steps in 1873 to limit the coinage of 5-franc pieces. An examination of Mr. Sauerbeck's index numbers of forty-five commodities will show that the index number for 1865 was 101, for 1873 it reached the maximum of 111, and in 1878 it fell to 87, in spite of the large additions of both gold and silver, because in the meantime Germany and Scandinavia had passed on to the gold standard, and the United States were making preparations to follow their example. Thus, even when silver was added to the circulation during this period, the volume of money was not large enough to keep general prices from falling from 100 to 87.

There was a diminished production of gold and an increased production of silver between 1865 and 1878, so that with this change in the relative amounts of production of the two metals, there was a new distribution of gold and silver according to the changed circumstances.

The coinage of 5-franc pieces was suspended in 1878, and in the sixteen years from 1879 to 1894 the diminished amount of both gold and silver coinage and of net imports is most significant:—

FRANCE.—*Coinage and Net Imports of Gold and Silver.*

	Gold Coinage.	Silver (Subsidiary) Coinage.	Total Coinage.	Gold. Net Imports.	Silver. Net Imports.	Gold and Silver. Total Net Imports.
	£	£	£	£	£	£
1879-94, 16 years	8,016,361	1,068,887	9,085,248	22,440,000	20,840,000	43,280,000
	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.	Per Annum.
	501,022	66,806	567,828	1,402,500	1,302,500	2,705,000

The gross imports of gold and silver into France from 1815 to 1894 amounted to 1,065,000,000*l.*, and the gross exports to 675,000,000*l.*, thus giving net imports of gold and silver amounting to 390,000,000*l.* The total coinage of gold and silver from 1795 to 1894 amounted to 577,236,000*l.*, and from 1815 to 1894 the total coinage was 512,734,000*l.*, that is nearly one-half of the gross imports of gold and silver during the same period. This coinage of 512,734,000*l.* was more than 30 per cent. greater than the total net imports of gold and silver, namely, 390,000,000*l.*, as already stated.

And here it will be interesting to make a further comparison with the last period of bimetallism and the first period during which the world has witnessed the experiment of gold monometallism:—

France.[6]	Gold. Net Imports.	*United Kingdom.*[7]	Gold. Net Imports.
	£		£
1853-78, 26 years	249,900,000	1858-76, 19 years	86,928,000
Per annum	9,611,538	Per annum............	4,575,000
1879-94, 16 years	22,440,000	1877-94, 18 years............	34,060,000
Per annum	1,402,500[8]	Per annum............	1,892,000[8]

During the period from 1853 to 1873-78 France was under bimetallism, and the United Kingdom was on the bimetallic level of money and of prices. During the later period, from 1879 to

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[6] See Table on p. 435, and Table IV in Appendix.

[7] See Table VIII in Appendix.

[8] These amounts are surprisingly, if not alarmingly, small. But it must be remembered that according to Soetbeer's statement, the Director of the French Mint estimated in 1886 the consumption of gold in the arts in France at 15,500 kilogrammes, or about 1,882,000*l.* per annum, and Soetbeer estimated the amount of gold used in the arts in the United Kingdom about 1886 at 2,108,000*l.* per annum, after deducting 15 per cent. for old material melted down. See Appendix to "Final "Report of the Gold and Silver Commission" (1888), p. 171. The arts therefore, in both countries, consumed considerably more than the whole supply of gold in the last sixteen or eighteen years.

1894, France and the United Kingdom were both on the volume of money and the level of prices of gold monometallism, with the result that their imports of gold were enormously reduced as compared with the earlier period. This was accompanied by a fall in the general prices of commodities, as compared with Mr. Sauerbeck's index number for the twenty-five years from 1853 to 1877, of about 40 per cent. at the end of 1894.[9] For the first time in history Europe came under the standard of gold monometallism, and as a mechanical method of providing an adequate volume of money for the purpose of maintaining a just level of general prices, the above figures are conclusive that gold monometallism has failed to do so, owing to the deficiency of gold for the new demands made upon it in the last twenty-three years.

V.—*Mint Prices, Market Prices, and the Foreign Exchanges.*

The words "mint price" are used in this paper notwithstanding the opposition of some writers to this term, because the mint price is not the only price of gold or silver in gold countries or silver countries. For example, there is the Bank of England price, namely, 3*l.* 17*s.* 9*d.*, which the Bank pays for every ounce of gold tendered. There is the mint price of 3*l.* 17*s.* 10½*d.*, and this price the Bank receives from the mint in sovereigns, and at this rate it pays in the course of its business. Then there is the market price at, and higher than, the Bank price, and last year the Bank sold gold bullion as high as 3*l.* 18*s.* –¼*d.*, and in the open market the price rose as high as 3*l.* 18*s.* 2*d.*[10] It is therefore necessary to use the words "mint price" simply because in this country gold has three prices. It has been already remarked that mints receiving either gold or silver, can receive the gold or silver only at the mint price. The result is that if there is no demand for gold at a higher rate than the price that the Bank offers, holders of gold will have no option but to tender the gold at the Bank, as any probable premium to be obtained within a short period must be so slight that it will not pay the owners of gold to hold it for any such contingency. But if the local demand for the arts is so great that purchasers are prepared to pay a higher price for bars than the price the bank offers, no gold will be sent to the mint until the demands for the arts are satisfied. Further, if there is a demand for gold from abroad, or if the exchanges with any foreign country or countries fall so low that there is a profit in exporting gold, then gold will be exported instead of being sent to the mint. In any case the premium on gold can only be slight in this country, seeing that sovereigns can be demanded from the Bank of England, but as long as this premium lasts, no gold will be offered at the Bank.

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[9] See Mr. Sauerbeck's Index Numbers from 1858 to 1876 and from 1877 to 1894, in Table VIII. The index number for January, 1895, was 60.

[10] See "A Colloquy on Currency," by Henry Hucks Gibbs, 1894, p. 122, note.

There are therefore three causes that may lead to a premium: (1) the demand for gold for local consumption in the arts, &c., (2) the demand from finance houses who may be purchasing gold for export, as in the cases of Germany, Italy, Austria-Hungary, and Russia, when they were accumulating gold, and (3) the demand when the foreign exchanges fall to the bullion point at which gold can and will be exported. During the years from 1877 to 1886, not only was all of the gold imported into this country exported again (see Table VIII), but in these ten years we exported 9,000,000*l.* of gold in addition, and the consumption of gold in the arts was also supplied from gold already within the kingdom. The mint price, therefore, can only attract gold when the other demands are satisfied, and thus the market price must always be higher than the mint price so long as these home or foreign demands continue, but the case is far more striking in a country under bimetallism.

In France the foreign demand for the purchase of gold, and the automatic export of gold through the foreign exchanges when they reached the point at which gold could be exported at a profit, could only be satisfied by withdrawing gold from the Bank of France. Now the Bank of France had the power to make its payments in either gold or silver money at its own option, and therefore its position differed from that of the Bank of England, which must always pay in sovereigns when these are demanded, and which has only the opportunity of a very slight premium as between sovereigns and bullion. But the Bank of France was not bound, and is not even now bound, to pay gold, as it could and can still pay debts to an unlimited extent in legal tender silver money. The consequence was that the Bank of France was always able to pay in the money of one metal, or to pay in the money of the other, and as it knew perfectly well whether a metal was at a premium in legal tender money, it was in a position to check to some extent the export of gold or silver by refusing to pay in the coins wanted, and by demanding a premium for bullion of the desired metal. This gave the Bank of France a power in connection with the precious metals which the Bank of England could not then and cannot now exercise, and by means of this power the Bank of France has always been able to control in an important degree the export of gold or silver, and to moderate panics and also to minimise those changes in money and in the rates of discount which would otherwise have taken place, if the Bank had not been in a position to refuse to allow gold or silver to be exported at the option of the bullion dealers.

Chevalier and others of his countrymen, in their endeavours first to secure silver monometallism when the supplies of gold were very abundant, and afterwards to secure gold monometallism when the supplies of silver increased, endeavoured to prejudice the question of the success of bimetallism, by showing that during the extraordinary flow of gold into France from 1851 to 1865 the premium on silver rose on rare occasions as high as 3 per cent., and writers in this country have seized upon this fact, and inferred from it that bimetallism failed to maintain the legal ratio. If it is considered, however, that there were powerful factors determining the price of gold and the price of silver in various parts of the world, as can be readily demonstrated, the fact that silver might have become more valuable by 3 per cent. in legal tender money than the French ratio, can readily be shown to be due to causes which are totally independent of bimetallism, and prove nothing whatever in connection with it. Table IX illustrates the fluctuations in the gold exchange on London of a tael weight of silver in Shanghai in 1863, 1864, and 1865, the rupee rates of exchange in London on Bombay in 1865 and 1866, and also the rates at Calcutta for documentary bills on London from 1843 to 1872. The table shows that the fluctuations in the rates at Shanghai on London between the minimum and the maximum were 8·56 per cent. in 1863, 12·42 per cent. in 1864, and 7·93 per cent. in 1865. The fluctuations in the rates in London for bills on Bombay were 6·04 per cent. in 1865, and 10·23 per cent. in 1866, and the rates at Calcutta twice a year show an extreme limit of fluctuation of about 23 per cent. from 1843 to 1872. These figures show how in times before telegraphic communication was established, there were considerable fluctuations in the Eastern exchanges. As it was impossible for banks and merchants to forecast exactly what silver might be wanted, and as these places were very remote from the centres where silver could be obtained in considerable quantities, it frequently happened that there was far less silver than was needed for the wants of the community, and at other times more silver than was needed.

The inevitable result was, therefore, that temporary changes of very wide extent took place, and, as the quotations show, fluctuations have been as high as 12 per cent., within a short time, until advices by steamers reached ports either in the East or in Europe from which silver could be drawn to supply the deficiency. It will thus be seen that at times there was an enormous premium on silver and on rupees in remote ports like Shanghai and Bombay and Calcutta as valued in gold or silver legal tender money of Europe, owing to exceptional and temporary scarcity. If it is considered that in all remote trading centres, of which Shanghai and the ports of India are merely taken as illustrations, it is simply impossible to maintain the exact quantity of silver or of gold that the special exigencies of the trade may demand, it is at once evident why there must often have been a large premium upon silver and also upon gold. During the period when gold was flowing into France in such enormous quantities after the Californian and Australian discoveries, there was an enormous pressure of silver to pass to the Oriental countries in order to maintain the same level of prices in the East as in France. The rise of prices in France caused by the additions of gold to the French currency could only be extended to India by the withdrawal of silver from France and its shipment to India and the other countries of the East, and as the Bank of France, the great holder of silver, was in a position to refuse to give silver for export, and as the bulk of the silver in France was in coin, it became necessary for purchasers of silver to offer a brokerage to agents to secure it.

A glance at Table VII, of the net imports of gold and silver into India will show that previous to 1850, and even to 1855, the annual net imports of these two metals were on a very insignificant scale; but in the eleven years from 1856 to 1866 the annual imports of gold were 5,160,000*l.* and the annual imports of silver were 10,810,000*l.*, as compared with about one-fifth of these annual amounts in the five years from 1851 to 1855. Further, in the six years from 1867 to 1872 the net imports of gold per annum were 4,170,000*l.*, and of silver 5,990,000*l.* During these seventeen years, that is from 1856 to 1872, India absorbed no less than 82,000,000*l.* of gold, and 155,000,000*l.* of silver. These extraordinary imports of both gold and silver were mainly due to the excessive gold production in the world, because previous to this time the imports of gold into India had been insignificant, and it was the pressure of the new supplies from California and Australia that caused India to absorb these large amounts of gold. On the other hand, as has already been shown, in order to relieve the strain on gold in Europe, France exported 69,000,000*l.* of silver to the silver money countries, which also imported a large portion of the production of the silver mines. These figures illustrate the manner in which the Oriental countries, as well as Europe and the United States, were subjected to very extensive movements of the precious metals between 1850 and 1870.

It is not surprising, therefore, that with such enormous shipments of both gold and silver to the Oriental countries, there should have been such high prices for silver and such high rates of exchange between Europe and Asia, and that considerable premiums on both gold and silver should have been frequently current. These figures of the India and China exchanges, and of the field for premiums on gold or silver for shipment to these countries, are only an illustration as to the movements of gold and silver which were going on to a very large extent between Europe and the United States on the one hand, and the most distant trading ports of the world on the other. The history of the period from 1850 to 1870 was one of enormous activity in the automatic distribution of the excessive supplies of gold and in the movements of silver all over the world, so that although there was a real par of exchange between gold and silver all over the world, yet it was impossible for these excessive movements of the precious metals to be made without considerable premiums.

At the same time, so far as English gold money and French gold and silver money were concerned, so long as they were confined to money purposes, there was no premium on them. Whatever premiums on gold or silver might be obtainable in any place at any one time, they could in no way affect the current money of the country, because so long as the supplies of gold or silver are large enough to provide for the arts and other demands, and leave a portion available for coinage, this portion must be tendered at the mints at the mint price; and if the demand for the arts and other purposes absorbs more than the new supplies of gold or silver, the rest of the demand must be made up from money withdrawn from circulation. Indeed, bimetallism, by permitting France to accumulate a large stock of full valued silver, enabled it to import gold and to export silver, and the Oriental countries through their imports of silver were able to remain on the same level of prices as France, owing to the relation between Indian silver and French silver, and to remain on the same relative prices as this country, owing to the relation between Indian silver, French silver and gold, and the relation of French gold with English gold. By thus standing between England and India, France enabled the par of exchange between these two countries to be maintained, and although silver might on exceptional occasions be at a premium of 3 per cent., yet England, France, and India did not fail to receive their distributive share of gold and silver, each at its own mint price and without any premium whatever. So far as their money was concerned the premium on silver had no effect whatever upon it, because none of these countries did anything except receive and coin gold or silver at their mint prices and at none other.

From these considerations it is evident that the foreign exchanges may give a large premium on gold or on silver, but this is only temporary, and in the end the price of gold or silver in every country will fall to a point where it will be tendered at the mint, unless the new supplies of the precious metals are so deficient that there are none available for coinage. The conclusion, therefore, cannot be disputed that the mint price enabled France under bimetallism to receive all the gold and silver needed to maintain its volume of money on a par with that of England, Germany, India, China, and other countries; and England received its share of gold, and Germany, India, and other silver money countries, received their share of silver, and thus in the money functions of these countries a premium was utterly unknown, so that the coinage of England, Germany, the United States, Belgium, Holland, India, Mexico, and other countries ought to be added to the coinage of France in order to arrive at the total amount of gold and silver that was offered at the various fixed mint prices, and practically at the French bimetallic ratio, and without any premium whatever.

VI.—*Conclusions.*

It was shown at the outset that gold and silver were always used as money from the earliest times, and that the ratio between them was not only different in different countries, but it was frequently changed. The production of gold and silver was very limited, and the general practice was to make one of the metals the standard as they termed it, and to rate the other metal to it. But when France adopted the ratio of 1 to 15½ in 1785, its coinage was large enough to make that ratio effective, and thus to give a par of exchange between gold and silver all over the world.

The statistics in this paper prove conclusively—

(1) That from 1795 till 1873-78 France maintained at its mint the ratio of 1 to 15½, the whole of its coinage, amounting to 347,673,000*l.* of gold and 220,478,000*l.* of silver, being struck at this ratio and at no other, except after 1864 for subsidiary coins (Table III);

(2) That from 1803 till 1878 gold was coined in every year except in 1872 and 1873, when specie payments were suspended (Table III);

(3) That from 1795 till 1878 full legal tender silver was coined in every year (Table III);

(4) That the use of both metals as money was absolutely necessary from 1500 to 1700 owing to the small production of gold and silver, and silver was particularly a necessity owing to the very small production of gold, while the use of both was still

imperative from 1700 up till 1840, and even to 1850, owing to the limited supply of both metals (Table I);

(5) That after 1852 the production of gold was considerably in excess of the requirements for the maintenance of the level of prices then existing, but under the action of bimetallism France relieved the pressure of gold in Europe to a great extent by exporting about 70,000,000*l.* of silver out of its stock of that metal, and importing a like amount of gold in its place (Tables I and IV);

(6) That France imported and exported gold every year from 1830 till the present time, and imported and exported silver every year from 1830 till 1878, thus showing the complete freedom and activity of both metals internationally, and that there was no year when the two metals did not flow freely into and out of France (Table IV);

(7) That in no year from 1811 till the present time did the Bank of France fail to hold in its reserves both gold and silver, though in some parts of the years 1825, 1828, 1830, 1832, 1833, and 1834, and in these only, the bank did not hold any gold (Table V);

(8) That from 1811 till the present time the Bank of France never failed to hold full legal tender silver in its reserve (Table V);

(9) That the imports of gold into France from 1879 to 1894, and likewise those into the United Kingdom from 1877 to 1894, the only period of gold monometallism that the world has ever seen, showed an immense falling off as compared with the previous period (Tables IV and VIII); and that *pari passu* the average prices of commodities in this country fell to a very large extent compared with the former period, as shown by Mr. Sauerbeck's index numbers (Table VIII);

(10) That the enormous increase in the imports of silver into India, and also in a lesser degree of gold from 1855 to 1872 as compared with the previous period, assisted very materially in mitigating the pressure of the new gold in the European countries, and thus in keeping prices from rising to a much higher level all over the world than they did reach (Table VII);

(11) That while France coined the whole of its money at the ratio of 1 to 15½, there was frequently a premium on one or both metals in the bullion market, but as this premium in no way affected the gold and silver deposited for coinage or the money in circulation, it did not affect bimetallism in France;

(12) That there can be no bullion market outside the mint without a premium on the metals, and that the fluctuations in the foreign exchanges on this country, as well as those in London on

foreign countries were in bimetallic times frequently very great, and that thus a greater or smaller premium could very frequently be obtained in Paris for one metal, and sometimes even for both. (See Tables VI and IX, and the Tables of Dr. Giffen and Mr. Henry Hucks Gibbs already referred to on p. 428);

(13) That there are no grounds whatever for the opinion that bimetallism in France from 1785 till 1873-78 gave an alternate standard, as Tables III, IV, and V show that gold and silver were coined in every year and were always in circulation in France during the whole period, and that gold money never diverged in value from silver money in the entire business of the French people, though the trade of the bullion dealer could only be carried on if there was a profit on importing or exporting the precious metals.

APPENDIX.

TABLE I.—*The World's Production of Gold and Silver from* 1493 *to* 1885.

[Calculated from Soetbeer's Figures.*]

Years.	Weight per Annum.			Value per Annum.			
	Gold, Fine.	Silver, Fine.	Proportion of Gold to Silver, as 1 to	Gold, 1*l.* equal to 20 Marks.	Silver, 1*l.* equal to 20 Marks.	Total of Gold and Silver.	Proportion of Gold to Silver, as 1 to
	Ozs., troy.	Ozs., troy.		£	£	£	
1493–1520....	186,470	1,511,050	8·1	809,100	611,000	1,420,100	0·76
1521– '44....	230,194	2,899,930	12·6	998,800	1,118,500	2,117,300	1·12
'45– '60....	273,596	10,017,940	36·6	1,187,100	3,848,250	5,035,350	3·24
'61– '80....	220,195	9,628,925	43·9	954,150	3,638,950	4,593,100	3·81
'81–1600....	237,267	13,467,635	57·2	1,029,500	4,943,000	5,972,500	4·81
1601– '20....	273,918	13,596,235	49·6	1,188,550	4,821,050	6,009,600	4·06
'21– '40....	266,845	12,654,240	47·4	1,157,850	3,916,300	5,074,150	3·38
'41– '60....	281,955	11,776,545	41·8	1,223,400	3,516,500	4,739,900	2·87
'61– '80...	297,709	10,834,550	36·4	1,291,750	3,134,100	4,425,850	2·43
'81–1700....	346,094	10,992,085	31·7	1,501,700	3,179,650	4,681,350	2·12
1701– '20..	412,163	11,432,540	27·7	1,788,400	3,253,750	5,042,150	1·82
'21– '40 ..	613,422	13,863,080	22·6	2,661,650	3,988,600	6,650,250	1·49
'41– '60....	791,211	17,140,611	21·7	3,433,100	5,038,200	8,471,300	1·46
'61– '80....	675,665	20,985,591	31·5	2,888,350	6,201,050	9,089,400	2·14
'81–1800....	571,948	28,261,779	49·4	2,481,700	8,131,300	10,613,000	3·28
1801– '10....	571,562	28,775,858	50·7	2,480,000	8,002,650	10,482,650	3·23
'11– '20....	367,957	17,385,756	47·2	1,596,600	4,866,950	6,463,550	3·05
'21– '30....	457,045	14,807,005	32·4	1,983,150	4,075,950	6,059,100	2·05
'31– '40....	652,292	19,175,868	29·4	2,830,300	5,278,600	8,108,900	1·87
'41– '50....	1,760,502	25,090,342	14·2	7,638,850	6,867,650	14,506,500	0·90
'51– '55....	6,410,325	28,488,598	4·4	27,815,400	8,019,350	35,834,750	0·29
'56– '60....	6,485,863	30,252,829	4·7	28,144,950	8,235,450	36,380,400	0·29
'61– '65....	5,949,583	35,401,973	5·9	25,816,300	9,965,400	35,781,700	0·38
'66– '70....	6,270,086	43,051,583	6·9	27,206,950	11,984,800	39,191,750	0·44
'71– '75....	5,591,014	63,317,014	11·3	24,260,350	17,232,450	41,492,800	0·71
'76– '80....	5,543,111	78,775,602	14·2	24,052,250	19,103,100	43,155,350	0·79
'81– '85....	4,794,755	92,003,944	19·2	20,804,900	21,438,000	42,242,900	1·03

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* The whole of the figures of weight and value, and also the proportions, are calculated from kilogrammes and marks as given in the "Appendix to the Final Report of the Gold and "Silver Commission," pp. 146—148.

TABLE I—*Contd.*

Total Production in Weight.

	Gold, Fine.	Percentages of Total.	Silver, Fine.	Percentages of Total.	Proportion by Weight of Gold and Silver Production.	
					Gold.	Silver.
	Ozs., troy.	Per cnt.	Ozs., troy.	Per cnt.	Per cnt.	Per cnt.
1493–1850 (358 years)	152,779,050	43	4,816,930,012	72	3	97
1851–85 (35 years)	205,225,924	57	1,850,670,736	28	10	90
Total	358,004,974	—	6,667,600,748	—	5	95

*Total Production in Value.**

[Converted at 1*l.* = 20 marks.]

	Gold.	Percentages of Total.	Silver.	Percentages of Total.	Proportion by Value of Gold and Silver Production.*		
					Gold.	Silver.	Total.
	£	Per cnt.	£	Per cnt.	Per cnt.	Per cnt.	Per cnt.
1493–1850 (358 years)	662,900,000	43	1,471,650,000	75	31	69	100
1851–85 (35 years)	890,500,000	57	479,850,000	25	65	35	100
Total	1,553,400,000	100	1,951,500,000	100	44	56	100

* Dr. Soetbeer says "if the value of the silver product were calculated, on the "plan formerly in use, by considering the ratio to have been 15½ to 1 throughout "(that is considering the kilogramme of silver to have been worth 180 marks "throughout), the proportions in the three hundred and fifty-eight years would be "33 per cent. gold and 67 per cent. silver; and in the thirty-five years, 63 per cent. "gold and 37 per cent. silver." (See Appendix XVI in the "Final Report of the "Gold and Silver Commission," p. 148.)

TABLE II.—*The World's Production and Coinage of Gold and Silver from* 1873 *to* 1894.

[From Tables issued by the United States Mint.]
Converted at 1*l.* = $5.
[000's omitted.]

	Production.					Coinage.	
	Silver.			Gold.	Gold and Silver (Coining Value).		
	Fine.	Commercial Value	Coining Value, 16 to 1.			Gold.	Silver.
	Ozs., troy.	£	£	£	£	£	£
1873....	63,267,	16,424,	16,360,	19,240,	35,600,	51,526,	26,309,
'74....	55,300,	14,135,	14,300,	18,150,	32,450,	27,156,	20,586,
'75....	62,262,	15,516,	16,100,	19,500,	35,600,	41,068,	24,629,
'76....	67,753,	15,664,	17,520,	20,740,	38,260,	42,624,	24,715,
'77....	62,648,	15,048,	16,200,	22,800,	39,000,	34,735,	15,681,
'78....	73,476,	16,929,	19,000,	23,800,	42,800,	37,677,	32,238,
'79....	74,250,	16,677,	19,200,	21,800,	41,000,	18,151,	20,978,
1880....	74,791,	17,127,	19,340,	21,300,	40,640,	29,945,	16,922,
'81....	78,890,	17,955,	20,400,	20,600,	41,000,	29,408,	21,602,
'82....	86,470,	19,646,	22,360,	20,400,	42,760,	19,939,	22,157,
'83....	89,177,	19,797,	23,060,	19,080,	42,140,	20,969,	21,861,
'84....	81,597,	18,163,	21,100,	20,340,	41,440,	19,887,	19,166,
'85....	91,652,	19,513,	23,700,	21,680,	45,380,	19,152,	25,353,
'86....	93,276,	18,554,	24,120,	21,200,	45,320,	18,928,	24,971,
'87....	96,124,	18,806,	24,856,	21,155,	46,011,	24,998,	32,682,
'88....	108,827,	20,457,	28,141,	22,039,	50,180,	26,966,	26,984,
'89....	120,214,	22,480,	31,086,	24,698,	55,784,	33,780,	27,849,
1890....	126,095,	26,480,	32,606,	23,770,	56,376,	29,819,	30,207,
'91....	137,171,	27,105,	35,470,	26,130,	61,600,	23,907,	27,659,
'92....	152,940,	26,765,	39,548,	29,259,	68,807,	34,495,	31,186,
'93*	—	—	41,833,	31,446,	73,279,	46,372,	27,189,
'94*	—	—	42,896,	36,302,	79,198,	—	—
Total..	—	—	549,196,	505,429,	1,054,625,	631,497,	520,924,
Yearly avge.	—	—	24,963,	22,974,	47,937,	30,071,	24,806,

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* These figures for 1893 and 1894 are revised figures issued in June, 1895, after the publication of the Annual Report.

TABLE III.—FRANCE. *Coinage of Gold and Silver from* 1795 *to* 1894.
[Converted at 1*l.* = 25 frs.]

Years.	Silver.		Total Silver.	Gold.	Total Gold and Silver.
	5-franc pieces.	Minor Coins of less than 5 frs.			
	£	£	£	£	£
IV and V	1,655,975	—	1,655,975	—	1,655,975
VI	476,692	—	476,692	—	476,692
VII	759,188	—	759,188	—	759,188
VIII	554,089	—	554,089	—	554,089
IX	152,663	—	152,663	—	152,663
X	193,711	—	193,711	—	193,711
XI	457,170	—	457,170	—	457,170
1803	913,080	13,799	926,879	408,393	1,335,272
'04	1,692,132	208,555	1,900,687	1,538,559	3,439,246
'05	1,567,279	288,157	1,855,436	818,980	2,674,416
'06	897,129	112,537	1,009,666	1,541,350	2,551,016
'07	160,884	39,472	200,356	720,796	921,152
'08	1,876,447	836,909	2,713,356	1,292,450	4,005,806
'09	1,597,089	174,770	1,771,859	608,257	2,380,116
'10	2,068,896	217,912	2,286,808	1,842,824	4,129,632
'11	9,789,499	466,462	10,255,961	5,285,429	15,541,390
'12	6,209,122	222,334	6,431,456	3,908,715	10,340,171
'13	5,200,570	195,442	5,396,012	2,506,387	7,902,399
'14	2,431,541	18,223	2,449,764	2,581,788	5,031,552
'15	1,506,409	543	1,506,952	2,215,193	3,722,145
'16	1,367,333	29,368	1,396,701	606,051	2,002,752
'17	1,401,791	83,952	1,485,743	2,087,883	3,573,626
'18	483,987	12,256	496,243	3,816,418	4,312,661
'19	837,760	11,643	849,403	2,096,426	2,945,829
'20	722,458	15,006	737,464	1,151,243	1,888,707
'21	2,671,036	30,318	2,701,354	16,165	2,717,519
'22	3,937,655	89,510	4,027,165	188,724	4,215,889
'23	3,213,630	102,837	3,316,467	16,327	3,332,794
'24	4,462,913	116,127	4,579,040	282,868	4,861,908
'25	2,914,778	93,353	3,008,131	1,824,654	4,832,785
'26	3,549,292	84,132	3,633,424	37,021	3,670,445
'27	5,983,216	171,543	6,154,759	126,437	6,281,196
'28	6,285,226	173,419	6,458,645	321,029	6,779,674
'29	3,985,818	119,886	4,105,704	44,727	4,150,431
'30	4,747,844	59,639	4,807,483	940,665	5,748,148
'31	8,131,695	77,255	8,208,950	1,985,655	10.194,605
'32	5,372,212	281,944	5,654,156	81,850	5,736,006
'33	6,177,023	122,291	6,299,314	671,991	6,971,305
'34	8,461,360	270,175	8,731,535	1,209,248	9,940,783
'35	3,832,444	154,201	3,986,645	182,002	4,168,647
'36	1,660,753	68,942	1,729,695	203,881	1,933,576
'37	4,368,101	106,246	4,474,347	81,069	4,555,416
'38	3,449,603	89,969	3,539,572	197,605	3,737,177
'39	2,861,551	83,958	2,945,509	826,800	3,772,309
'40	2,452,235	99,586	2,551,821	1,639,929	4,191,750
'41	2,931,987	168,730	3,100,717	495,002	3,595,719
'42	2,635,196	100,450	2,735,646	74,108	2,809,754
'43	2,874 358	91,601	2,965,959	113,064	3,079,023
'44	2,679,022	86,377	2,765,399	109,690	2,875,089
'45	3,356,131	242,573	3,598,704	4,765	3,603,469
'46	1,688,440	227,005	1,915,445	83,456	1,998,901
'47	2,864,401	267,005	3,131,406	308,240	3,439,646
'48	4,762,117	27,126	4,789,243	1,587,909	6,377,152
'49	8,153,261	108,685	8,261,946	1,084,382	9,346,328

TABLE III *Contd.*—FRANCE. *Coinage of Gold and Silver.*

Years.	Silver.		Total Silver.	Gold.	Total Gold and Silver.
	5-franc pieces.	Minor Coins of less than 5 frs.			
	£	£	£	£	£
1850	3,224,135	234,204	3,458,339	3,407,695	6,866,034
'51	2,299,858	73,234	2,373,092	10,788,382	13,161,474
'52	2,798,040	78,697	2,876,737	1,081,130	3,957,867
'53	778,326	25,653	803,979	12,518,560	13,322,539
'54	2,123	82,832	84,955	21,061,128	21,146,083
'55	972,234	47,778	1,020,012	17,897,112	18,917,124
'56	1,831,096	345,792	2,176,888	20,331,279	22,508,167
'57	18,681	133,703	152,384	22,902,449	23,054,833
'58	5,318	341,224	346,542	19,547,585	19,894,127
'59	673	335,399	336,072	28,107,911	28,443,983
'60	—	323,367	323,367	17,138,097	17,461,464
'61	4,419	96,302	100,721	3,928,656	4,029,377
'62	4,225	96,550	100,775	8,569,679	8,670,454
'63	4,337	8,847	13,184	8,409,225	8,422,409
'64	6,433	285,431*	291,864	10,953,750	11,245,614
'65	19,426	349,469	368,895	6,475,473	6,844,368
'66	7,578	1,785,278	1,792,856	14,603,317	16,396,173
'67	2,162,062	2,388,279	4,550,341	7,943,180	12,493,521
'68	3,744,822	1,432,988	5,177,810	13,603,067	18,780,877
'69	2,330,571	396,464	2,727,035	9,367,447	12,094,482
'70	2,145,934	616,116	2,762,050	2,215,792	4,977,842
'71	188,436	766,703	955,139	2,006,795	2,961,934
'72	15,567	1,057,967	1,073,534	—	1,073,534
'73	6,185,961	64,845	6,250,806	—	6,250,806
'74	2,399,840	24,559	2,424,399	972,788	3,399,187
'75	3,000,000	—	3,000,000	9,396,480	12,396,480
'76	2,106,452	—	2,106,452	7,059,726	9,166,178
'77	658,571	—	658,571	10,207,245	10,865,816
'78	72,856	—	72,856	7,412,724	7,485,580
Total from 1795 to 1878	202,424,166	18,053,904	220,478,070	347,673,077	568,151,147
1879	—	—	—	984,421	984,421
'80	—	—	—	—	—
'81	—	269,337	269,337	86,680	356,017
'82	—	46,394	46,394	149,680	196,074
'83	—	—	—	—	—
'84	—	—	—	—	—
'85	—	—	—	11,576	11,576
'86	—	6,175	6,175	943,468	949,643
'87	—	356,423	356,423	986,727	1,343,150
'88	—	230,544	230,544	22,165	252,709
'89	—	14	14	699,112	699,126
'90	—	—	—	824,112	824,112
'91	—	—	—	696,880	696,880
'92	—	—	—	180,564	180,564
'93	—	—	—	2,037,734	2,037,734
'94	—	160,000	160,000	393,242	553,242
Total from 1795 to 1894	202,424,166	19,122,791	221,546,957	355,689,438	577,236,395
Recoinages	—	8,886,652	8,886,652	4,803,375	13,690,027
Total amount coined less Recoinages	202,424,166	10,236,139	212,660,305	350,886,063	563,546,368

* From and after 1864 the minor coins were struck at 835 fine instead of 900 as previous to that year, and were made legal tender for 50 frs. only instead of unlimited legal tender as formerly.

TABLE IV.—FRANCE. *Gross Imports and Exports of Gold and Silver.*

[1*l.* = 25 frs.]

[000's omitted.]

Years.	Gold.		Silver.		Gold and Silver.	
	Total Imports.	Total Exports.	Total Imports.	Total Exports.	Total Imports.	Total Exports.
	£	£	£	£	£	£
1815	—	—	—	—	1,240,	280,
'16	—	—	—	—	1,960,	6,200,
'17	—	—	—	—	4,480,	2,120,
'18	—	—	—	—	4,480,	6,200,
'19	—	—	—	—	3,520,	3,560,
1820	—	—	—	—	4,400,	5,520,
'21	—	—	—	—	5,040,	7,080,
'22	1,720,	1,560,	5,720,	720,	7,440,	2,280,
'23	3,000,	3,760,	5,040,	480,	8,040,	4,240,
'24	4,080,	2,600,	5,680,	720,	9,760,	3,320,
1825	—	—	—	—	10,040,	5,400,
'26	—	—	—	—	6,960,	7,000,
'27	—	—	—	—	7,480,	1,600,
'28	—	—	—	—	8,320,	1,160,
'29	—	—	—	—	5,920,	2,360,
Total, 1815 to 1829	—	—	—	—	89,080,	58,320,
1830	1,920,	1,520,	6,880,	840,	8,800,	2,360,
'31	960,	560,	7,840,	600,	8,800,	1,160,
'32	560,	2,120,	4,720,	2,320,	5,280,	4,440,
'33	1,440,	480,	6,520,	3,520,	7,960,	4,000,
'34	1,000,	1,280,	6,680,	2,640,	7,680,	3,920,
1835	200,	1,000,	5,240,	2,280,	5,440,	3,280,
'36	960,	1,520,	3,680,	2,600,	4,640,	4,120,
'37	1,160,	1,400,	6,720,	960,	7,880,	2,360,
'38	760,	920,	6,160,	1,360,	6,920,	2,280,
'39	1,720,	760,	5,280,	2,280,	7,000,	3,040,
1840	2,360,	400,	6,400,	2,560,	8,760,	2,960,
'41	600,	800,	6,800,	2,120,	7,400,	2,920,
'42	320,	800,	5,520,	1,840,	5,840,	2,640,
'43	400,	2,040,	6,280,	2,160,	6,680,	4,200,
'44	200,	440,	6,040,	2,760,	6,240,	3,200,
1845	200,	760,	6,360,	2,760,	6,560,	3,520,
'46	320,	680,	4,280,	2,400,	4,600,	3,080,
'47	840,	1,360,	5,520,	3,400,	6,360,	4,760,
'48	1,760,	240,	9,320,	760,	11,080,	1,000,
'49	480,	240,	11,640,	1,880,	12,120,	2,120,
1850	2,440,	1,760,	6,200,	3,280,	8,640,	5,040,
'51	4,640,	1,240,	7,160,	4,040,	11,800,	5,280,
'52	2,360,	1,680,	7,200,	7,320,	9,560,	9,000,
'53	12,760,	1,200,	4,520,	9,200,	17,280,	10,400,
'54	19,240,	2,600,	4,000,	10,560,	23,240,	13,160,
1855	15,240,	6,520,	4,840,	12,720,	20,080,	19,240,
'56	18,600,	3,600,	4,400,	15,760,	23,000,	19,360,
'57	22,760,	4,920,	3,920,	18,320,	26,680,	23,240,
'58	22,160,	2,640,	6,440,	7,040,	28,600,	9,680,
'59	29,080,	7,520,	8,440,	15,280,	37,520,	22,800,

Table IV *Contd.*—**France.** *Gross Imports and Exports of Gold and Silver.*

[1*l.* = 25 frs.]

[000's omitted.]

Years.	Gold.		Silver.		Gold and Silver.	
	Total Imports.	Total Exports.	Total Imports.	Total Exports.	Total Imports.	Total Exports.
	£	£	£	£	£	£
1860	1,880,	6,360,	5,240,	11,520,	7,120,	17,880,
'61	9,760,	10,720,	6,880,	9,360,	16,640,	20,080,
'62	16,080,	9,480,	5,280,	8,720,	21,360,	18,200,
'63	14,800,	14,320,	6,440,	9,160,	21,240,	23,480,
'64	18,560,	13,560,	10,720,	12,400,	29,280,	25,960,
1865	16,760,	10,760,	9,440,	6,560,	26,200,	17,320,
'66	32,520,	13,920,	10,000,	8,200,	42,520,	22,120,
'67	23,760,	7,400,	10,160,	2,600,	33,920,	10,000,
'68	19,720,	11,240,	7,720,	3,360,	27,440,	14,600,
'69	18,200,	7,200,	7,720,	3,240,	25,920,	10,440,
1870	12,400,	7,640,	4,240,	2,840,	16,640,	10,480,
'71	5,760,	14,320,	6,280,	5,680,	12,040,	20,000,
'72	5,680,	7,800,	9,640,	5,560,	15,320,	13,360,
'73	7,040,	11,360,	15,560,	8,320,	22,600,	19,680,
'74	20,680,	4,300,	17,360,	2,960,	38,040,	7,260,
1875	24,320,	5,520,	10,680,	3,280,	35,000,	8,800,
'76	23,960,	3,800,	8,200,	2,600,	32,160,	6,400,
'77	21,360,	3,960,	5,920,	1,680,	27,280,	5,640,
'78	14,560;	5,080,	7,200,	2,400,	21,760,	7,480,
'79	7,760,	14,480,	5,520,	2,480,	13,280,	16,960,
1880	7,760,	16,320,	4,040,	2,480,	11,800,	18,800,
'81	9,360,	8,920,	5,200,	3,160,	14,560,	12,080,
'82	11,360,	7,680,	5,120,	6,280,	16,480,	13,960,
'83	2,560,	5,360,	3,280,	3,840,	5,840,	9,200,
'84	5,080,	3,280,	4,040,	1,840,	9,120,	5,120.
1885	9,720,	8,040,	9,440,	5,520,	19,160,	13,560,
'86	10,440,	7,960,	7,360,	5,360,	17,800,	13,320,
'87	3,720,	10,320,	7,120,	5,560,	10,840,	15,880,
'88	4,080,	7,720,	6,560,	4,360,	10,640,	12,080,
'89	13,520,	5,160,	4,400,	4,120,	17,920,	9,280,
1890	4,680,	10,040,	5,560,	4,360,	10,240,	14,400,
'91	14,520,	9,400,	7,040,	5,840,	21,560,	15,240,
'92	15,480,	4,440,	4,800,	4,080,	20,280,	8,520,
'93	12,200,	4,680,	6,360,	5,040,	18,560,	9,720,
'94	18,320,	4,320,	3,720,	4.400,	22,040,	8,720,
Total, 1830 to 1894	625,800,	349,860,	439,240,	324,720,	1,065,040,	674,580,
Total Net Imports 1830 to 1894....	275,940,	—	114,520,	—	390,460,	—
Total, 1815 to 1894	—	—	—	—	1,154,120,	732,900,
Total Net Imports 1815 to 1894....	—	—	—	—	421,220,	—

TABLE IV *Contd.*—FRANCE. *Net Imports and Exports of Gold and Silver.*

[1*l.* = 25 frs.] [000's omitted.]

Years.	Gold.		Silver.		Total Gold and Silver.	
	Net Imports.	Net Exports.	Net Imports.	Net Exports.	Net Imports.	Net Exports.
	£	£	£	£	£	£
1815	—	—	—	—	960,	—
'16	—	—	—	—	—	4,240,
'17	—	—	—	—	2,360,	—
'18	—	—	—	—	—	1,720,
'19	—	—	—	—	—	40,
1820	—	—	—	—	—	1,120,
'21	—	—	—	—	—	2,040,
'22	160,	—	5,000,	—	5,160,	—
'23	—	760,	4,560,	—	3,800,	—
'24	1,480,	—	4,960,	—	6,440,	—
1825	—	—	—	—	4,640,	—
'26	—	—	—	—	—	40,
'27	—	—	—	—	5,880,	—
'28	—	—	—	—	7,160,	—
'29	—	—	—	—	3,560,	—
Total, 1815 to 1829	—	—	—	—	39,960,	9,200,
1830	400,	—	6,040,	—	6,440,	—
'31	400,	—	7,240,	—	7,640,	—
'32	—	1,560,	2,400,	—	840,	—
'33	960,	—	3,000,	—	3,960,	—
'34	—	280,	4,040,	—	3,760,	—
1835	—	800,	2,960,	—	2,160,	—
'36	—	560,	1,080,	—	520,	—
'37	—	240,	5,760,	—	5,520,	—
'38	—	160,	4,800,	—	4,640,	-
'39	960,	—	3,000,	—	3,960,	—
1840	1,960,	—	3,840,	—	5,800,	—
'41	—	200,	4,680,	—	4,480,	—
'42	—	480,	3,680,	—	3,200,	—
'43	—	1,640,	4,120,	—	2,480,	—
'44	—	240,	3,280,	—	3,040,	—
1845	—	560,	3,600,	—	3,040,	—
'46	—	360,	1,880,	—	1,520,	—
'47	—	520,	2,120,	—	1,600,	—
'48	1,520,	—	8,560,	—	10,080,	—
'49	240,	—	9,760,	—	10,000,	—
1850	680,	—	2,920,	—	3,600,	—
'51	3,400,	—	3,120,	—	6,520,	—
'52	680,	—	—	120,	560,	-
'53	11,560,	—	—	4,680,	6,880,	—
'54	16,640,	—	—	6,560,	10,080,	—
1855	8,720,	—	—	7,880,	840,	—
'56	15,000,	—	—	11,360,	3,640,	—
'57	17,840,	—	—	14,400,	3,440,	—
'58	19,520,	—	—	600,	18,920,	—
'59	21,560,	—	—	6,840,	14,720,	—

Table IV *Contd.*—**France.** *Net Imports and Exports of Gold and Silver.*

[1*l.* = 25 frs.]

[000's omitted.]

Years.	Gold.		Silver.		Total Gold and Silver.	
	Net Imports.	Net Exports.	Net Imports.	Net Exports.	Net Imports.	Net Exports.
	£	£	£	£	£	£
1860	—	4,480,	—	6,280,	—	10,760,
'61	—	960,	—	2,480,	—	3,440,
'62	6,600,	—	—	3,440,	3,160,	—
'63	480,	—	—	2,720,	—	2,240,
'64	5,000,	—	—	1,680,	3,320,	—
1865	6,000,	—	2,880,	—	8,880,	—
'66	18,600,	—	1,800,	—	20,400,	—
'67	16,360,	—	7,560,	—	23,920,	—
'68	8,480,	—	4,360,	—	12,840,	—
'69	11,000,	—	4,480,	—	15,480,	—
1870	4,760,	—	1,400,	—	6,160,	—
'71	—	8,560,	600,	—	—	7,960,
'72	—	2,120,	4,080,	—	1,960,	—
'73	—	4,320,	7,240,	—	2,920,	—
'74	16,380,	—	14,400,	—	30,780,	—
1875	18,800,	—	7,400,	—	26,200,	—
'76	20,160,	—	5,600,	—	25,760,	—
'77	17,400,	—	4,240,	—	21,640,	—
'78	9,480,	—	4,800,	—	14,280,	—
'79	—	6,720,	3,040,	—	—	3,680,
1880	—	8,560,	1,560,	—	—	7,000,
'81	440,	—	2,040,	—	2,480,	—
'82	3,680,	—	—	1,160,	2,520,	—
'83	—	2,800,	—	560,	—	3,360,
'84	1,800,	—	2,200,	—	4,000,	—
1885	1,680,	—	3,920,	—	5,600,	—
'86	2,480,	—	2,000,	—	4,480,	—
'87	—	6,600,	1,560,	—	—	5,040,
'88	—	3,640,	2,200,	—	—	1,440,
'89	8,360,	—	280,	—	8,640,	—
1890	—	5,360,	1,200,	—	—	4,160,
'91	5,120,	—	1,200,	—	6,320,	—
'92	11,040,	—	720,	—	11,760,	—
'93	7,520,	—	1,320,	—	8,840,	—
'94	14,000,	—	—	680,	13,320,	—
Total, 1830 to 1894	337,660,	61,720,	185,960,	71,440,	439,540,	49,080,
Total Net Imports 1830 to 1894....	275,940,	—	114,520,	—	390,460,	—
Total, 1815 to 1894	—	—	—	—	479,500,	58,280,
Total Net Imports 1815 to 1894....	—	—	—	—	421,220,	—

TABLE V.—THE BANK OF FRANCE.* *Stock of Gold and Silver, and Note Circulation, from* 1811 *to* 1894.

[Converted into sterling at 1*l.* = 25 frs.]

Years.	Gold.		Silver.		Note Circulation [000's omitted].
	Maximum.	Minimum.	Maximum.	Minimum.	
	£	£	£	£	£
1811	868,560	782,040	4,209,240	3,649,120	4,892,
'12	868,200	596,240	3,765,000	494,120	3,440,
'13	598,440	23,880	1,046,680	373,800	2,388,
'14	449,080	30,520	2,976,920	28,400	2,396,
'15	216,240	4,560	3,515,200	763,640	1,700,
1816	121,040	100,000	3,167,880	989,000	2,784,
'17	339,960	16,520	3,385,320	1,218,280	4,004,
'18	571,800	57,200	4,178,720	1,017,920	3,864,
'19	1,356,360	538,960	5,661,600	2,078,000	4,928,
'20	2,072,680	899,520	6,694,880	5,477,000	6,540,
1821	901,920	636,080	6,361,640	5,069,160	6,976,
'22	678,400	632,000	7,266,560	5,170,240	6,764,
'23	632,400	8,000	7,837,600	6,472,480	7,784,
'24	28,800	12,000	6,746,680	5,123,200	8,656,
'25	84,800	—	6,177,240	3,398,320	7,544,
1826	48,000	5,200	4,816,160	3,514,000	7,016,
'27	20,800	4,000	7,684,880	4,789,440	8,032,
'28	20,000	—	9,471,680	7,283,840	7,420,
'29	25,200	13,200	8,204,520	6,458,640	8,536,
'30	68,000	—	6,872,000	4,100,000	8,784,
1831	88,000	12,000	10,492,000	4,868,000	9,544,
'32	84,000	—	11,344,000	8,664,000	8,516,
'33	20,000	—	9,084,000	5,264,000	8,080,
'34	156,000	—	7,152,000	4,640,000	8,236,
'35	276,000	80,000	7,856,000	5,052,000	8,828,
1836	344,000	20,000	7,500,000	3,260,000	8,072,
'37	624,000	344,000	9,364,000	3,800,000	8,272,
'38	584,000	560,000	11,320,000	8,688,000	8,462,
'39	624,000	432,000	9,404,000	7,480,000	8,356,
'40	1,068,000	400,000	9,400,000	7,424,000	9,528,
1841	1,624,000	1,104,000	8,152,000	5,660,000	9,192,
'42	924,000	768,000	8,268,000	6,164,000	9,308,
'43	764,000	224,000	9,672,000	6,952,000	9,656,
'44	228,000	224,000	10,976,000	9,144,000	10,268,
'45	264,000	220,000	10,932,000	6,820,000	11,020,
1846	332,000	216,000	7,900,000	2,520,000	10,872,
'47	424,000	12,000	4,288,000	1,936,000	9,916,
'48	396,000	16,000	5,608,000	1,876,000	16,992,
'49	516,000	320,000	11,564,000	5,376,000	17,524,
'50	1,168,000	220,000	13,564,000	11,628,000	19,912,

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* The figures in francs from 1811 to 1886 will be found in the "Bulletin "de Statistique et de Legislation Comparée" for January, 1887, and the subsequent figures in the January numbers of each year.

The figures of the note circulation from 1811 till 1876 are given for September of each year, and in and after 1877 they are given for December.

Table V—*Contd.* *Stock of Gold and Silver, and Note Circulation.*

Years.	Gold.		Silver.		Note Circulation [000's omitted].
	Maximum.	Minimum.	Maximum.	Minimum.	
	£	£	£	£	£
1851	4,220,000	1,256,000	16,344,000	12,208,000	23,332,
'52	3,472,000	2,556,000	17,880,000	13,988,000	27,056,
'53	4,936,000	2,700,000	13,916,000	4,464,000	25,656,
'54	8,808,000	2,948,000	4,536,000	2,888,000	25,600,
'55	6,840,000	1,132,000	3,696,000	1,000,000	23,584,
1856	3,700,000	584,000	3,086,000	808,000	23,728,
'57	8,836,000	1,460,000	1,416,000	1,012,000	21,816,
'58	9,684,000	1,628,000	2,284,000	1,128,000	28,260,
'59	9,196,000	3,456,000	3,252,000	2,436,000	28,236,
'60	9,532,000	3,896,000	13,028,000	10,760,000	29,976,
1861	12,052,000	4,168,000	10,608,000	2,912,000	29,024,
'62	11,876,000	6,408,000	6,240,000	3,776,000	31,444,
'63	5,484,000	2,508,000	11,024,000	4,960,000	29,868,
'64	10,932,000	3,584,000	3,768,000	2,408,000	29,340,
65	15,648,000	8,636,000	5,712,000	3,756,000	35,024,
1866	26,364,000	10,916,000	5,404,000	3,456,000	38,260,
'67	29,108,000	20,436,000	13,472,000	5,416,000	45,028,
'68	35,084,000	26,496,000	19,092,000	12,352,000	51,560,
'69	29,228,000	23,524,000	23,732,000	18,920,000	54,408,
'70	29,572,000	17,348,000	23,184,000	2,836,000	69,040,
1871	23,704,000	14,396,000	5,268,000	1,436,000	91,488,
'72	27,316,000	22,064,000	5,816,000	3,152,000	105,616,
'73	27,648,000	22,408,000	6,012,000	4,968,000	112,868,
'74	40,588,000	24,376,000	13,180,000	6,016,000	101,612,
'75	47,044,000	40,172,000	20,348,000	12,368,000	95,164,
1876	61,792,000	46,616,000	25,580,000	19,780,000	102,288,
'77	62,260,000	48,164,000	34,668,000	25,484,000	98,540,
'78	48,096,000	40,136,000	42,352,000	34,436,000	88,652,
'79	43,512,000	30,088,000	48,984,000	42,236,000	89,836,
'80	33,076,000	21,456,000	51,300,000	48,480,000	96,348,
1881	26,256.000	21,664,000	49,956,000	46,584,000	109,528,
'82	40,228,000	25,800,000	46,528,000	43,700,000	110,704,
'83	40,564,000	37,856,000	43,716,000	40,080,000	117,544,
'84	42,512,000	37,840,000	41,396,000	39,556,000	114,340,
'85	47,032,000	39,812,000	44,244,000	40,976,000	111,392,
1886	55,720,000	45,692,000	45,844,000	43,128,000	108,756,
'87	49,796,000	44,816,000	47,932,000	45,288,000	109,064,
'88	45,440,000	40,472,000	49,420,000	47,260,000	104,028,
'89	53,400,000	39,936,000	50,544,000	48,968,000	120,124,
'90	52,836,000	44,568,000	51,076,000	49,564,000	122,072,
1891	55,064,000	44,744,000	51,128,000	49,584,000	120,444,
'92	68,332,000	53,448,000	51,960,000	50,040,000	129,296,
'93	68,836,000	61,488,000	51,420,000	49,956,000	137,628,
'94	82,460,000	67,820,000	51,324,000	50,224,000	138,340,

TABLE VI.—*Ratio of Weights of Equal Values of Gold and Silver, and French Mint Ratio from* 1803 *to* 1894.

Year.	Average Bullion Market Ratio of Gold to Silver* as 1 to	Ratio of French Mint Prices of Gold to Silver as 1 to	French Ratio of Coining and of Gold Coins to Silver Coins as 1 to	Year.	Average Bullion Market Ratio of Gold to Silver* as 1 to	Ratio of French Mint Prices of Gold to Silver as 1 to	French Ratio of Coining and of Gold Coins to Silver Coins as 1 to
1803....	15·41	15·69	15·50†	1852....	15·59	15·587	15·50†
’04....	15·41	„	„	’53....	15·33	„	„
’05....	15·79	„	„	’54....	15·33	15·583	„
’06....	15·52	„	„	’55....	15·38	„	„
’07....	15·43	„	„	’56....	15·38	„	„
’08....	16·08	„	„	’57....	15·27	„	„
’09....	15·96	„	„	’58....	15·38	„	„
’10....	15·77	„	„	’59....	15·19	„	„
’11 ...	15·53	„	„	’60....	15·29	„	„
’12....	16·11	„	„	’61....	15·50	„	„
’13....	16·25	„	„	’62....	15·35	„	„
’14....	15·04	„	„	’63....	15·37	„	„
’15....	15·26	„	„	’64....	15·37	„	„
’16....	15·28	„	„	’65....	15·44	„	„
’17...	15·11	„	„	’66....	15·43	„	„
’18....	15·35	„	„	’67....	15·57	„	„
’19....	15·33	„	„	’68....	15·59	„	„
’20....	15·62	„	„	’69....	15·60	„	„
’21....	15·95	„	„	’70....	15·57	„	„
’22....	15·80	„	„	’71....	15·57	„	„
’23....	15·84	„	„	’72....	15·63	„	„
’24....	15·82	„	„	’73....	15·92	„	„
’25....	15·70	„	„	’74....	16·17	„	„
’26....	15·76	„	„	’75....	16·59	„	„
’27....	15·74	„	„	’76....	17·88	„	„
’28....	15·78	„	„				
’29....	15·78	„	„				
’30....	15·82	„	„				French Ratio of Gold Coins to Silver Coins as 1 to
’31....	15·72	„	„				
’32....	15·73	„	„				
’33....	15·93	„	„				
’34....	15·73	„	„	1877....	17·22		15·50
’35 ...	15·80	15·626	„	’78....	17·94		„
’36....	15·72	„	„	’79....	18·40		„
’37...	15·83	„	„	’80....	18·05		„
’38....	15·85	„	„	’81....	18·16		„
’39....	15·62	„	„	’82....	18·19		„
’40....	15·62	„	„	’83....	18·64		„
’41....	15·70	„	„	’84....	18·57		„
’42....	15·87	„	„	’85....	19·41		„
’43....	15·93	„	„	’86....	20·78		„
’44....	15·85	„	„	’87....	21·13		„
’45....	15·92	„	„	’88....	21·99		„
’46....	15·90	„	„	’89....	22·10		„
’47....	15·80	„	„	’90....	19·76		„
’48....	15·85	„	„	’91....	20 92		„
’49....	15·78	15·587	„	’92....	23·72		„
’50....	15·70	„	„	’93....	26·49		„
’51....	15·46	„	„	’94....	32·56		„

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* The figures in this column are taken from table issued by the Director of the United States Mint. Those from 1803 to 1832 are taken from Soetbeer; from 1833 to 1878 they are from Pixley and Abell's tables of London prices; and from 1879 to 1894 from daily cablegrams from London to the Bureau of the United States Mint.

† All silver coins, large and small, were full legal tender till 1864, when the minor coins were reduced from 900 fine to 835, that is from 1 to 15·50 to the ratio of 1 to 14·38, and the legal tender reduced to 50 frs. The minor silver coins were of 2 frs., 1 fr., 50 c., and 25 c., but in 1848 the coinage of 25 c. was stopped, and in 1849 coins of 20 c. were introduced, and they continue to be coined.

TABLE VII.—INDIA. *Net Imports of Gold and Silver from* 1801 *to* 1895, *Rates of Exchange for Council Bills, and Average Prices of Standard Ounce of Silver in London from* 1835 *to* 1895.

[From 1801 to 1873 10 rupees or Rx. were calculated as the equivalent of 1*l*.]

Official Years* ended 30th April till 1865-66, and 31st March since then.	Number of Years.	Net Imports for Periods. In Millions of Tens of Rupees.			Average Yearly Net Imports. In Millions of Tens of Rupees.			Average Rate at which Council Bills on India were Sold in London.	Average Price of Silver in London per Standard Ounce.
		Gold.	Silver.	Total.	Gold.	Silver.	Total.		
		Mlns. of Rx.	Mlns. of Rx.	Mlns. of Rx.	Mlns. of Rx.	Mlns. of Rx.	Mlns. of Rx.	Pence.	Pence.
1801-35	35	—	—	75·11	—	—	2·15	—	—
'36-50	15	8·19	23·94	32·13	0·55	1·59	2·14	22·55	59·66
'51-55	5	5·39	11·92	17·31	1·08	2·38	3·46	23·92	61·40
'56-66	11	56·82	118·87	175·69	5·16	10·81	15·97	24·06	61·54
'67*-72	6	25·05	35·94	60·99	4·17	5·99	10·16	23·05	60·83
'73-89	17	43·18	110·76	153·94	2·54	6·51	9·05	19·83	50·16
'90	1	4·61	10·94	15·55	4·61	10·94	15·55	16·57	43·11
'91	1	5·64	14·17	19·81	5·64	14·17	19·81	18·09	48·16
'92	1	2·41	9·02	11·43	2·41	9·02	11·43	16·73	43·98
'93	1	2·81†	12·86	10·05	2·81†	12·86	10·05	14·98	38·98
'94	1	0·64	13·72	14·36	0·64	13·72	14·36	14·55	33·09
'95	1	4·97†	6·33	1·36	4·97†	6·33	1·36	13·10	28·17
Total net imports, 1836 to 1895	60	144·15	368·47	512·62	—	—	—	—	—
Yearly average	—	2·40	6·14	8·54	—	—	—	—	—
Total net imports, 1801 to 1895	95	—	—	587·73	—	—	—	—	—
Yearly average	—	—	—	6·19	—	—	—	—	—

* Up till 1865-66 the official year ended on 30th April. In the year 1866-67 the date was changed from 30th April to 31st March, and thus the imports for 1867 are only for eleven months. The figures of imports for the period 1867-72 are thus for 5 11/12 years only, and are so calculated in the average yearly imports, but in the averages for sixty and for ninety-five years the one month is left out of the calculation as quite insignificant.

† These are net exports, and are subtracted in the totals.

TABLE VIII.—THE UNITED KINGDOM. *Index Numbers of Commodities, and Net Imports and Net Exports of Gold for Nineteen Years from* 1858 *to* 1876, *and for Eighteen Years from* 1877 *to* 1894.

[000's omitted.]

	Net Imports.	Net Exports.	Mr. Sauerbeck's Index Numbers of 45 Commodities. Average Prices of 1853-77 = 100.		Net Imports.	Net Exports.	Mr. Sauerbeck's Index Numbers of 45 Commodities. Average Prices of 1853-77 = 100.
	£	£			£	£	
1858	10,226,	—	91	1877	—	4,932,	94
'59	4,217,	—	94	'78	5,902,	—	87
'60	—	3,057,	99	'79	—	4,210,	83
'61	926,	—	98	'80	—	2,374,	88
'62	3,892,	—	101	'81	—	5,536,	85
'63	3,840,	—	103	'82	2,353,	—	84
'64	3,621,	—	105	'83	665,	—	82
'65	5,993,	—	101	'84	—	1,269,	76
'66	10,768,	—	102	'85	646,	—	72
'67	7,911,	—	100	'86	—	838,	69
'68	4,428,	—	99	'87	631,	—	68
'69	5,297,	—	98	'88	844,	—	70
'70	8,793,	—	96	'89	3,459,	—	72
'71	921,	—	100	'90	9,261,	—	72
'72	—	1,280,	109	'91	6,108,	—	72
'73	1,540,	—	111	'92	6,751,	—	68
'74	7,439,	—	102	'93	4,661,	—	68
'75	4,493,	—	96	'94	11,933,	—	63
'76	6,960,	—	95*				
	91,265,	4,337,			53,214,	19,154,	
Deduct net exports	4,337,			Deduct net exports	19,154,		
Total net imports, 19 years	86,928,			Total net imports, 18 years	34,060,		
Annual net imports	4,575,			Annual net imports	1,892,		

* The average of the nineteen index numbers in this column is exactly 100, that is the same average as from 1853 to 1877.

TABLE IX.—*Illustrations of Fluctuations in the Foreign Exchanges.**

	From Messrs. Page and Gwyther's Annual Circulars.									
	Shanghai on London. Bank Bills at Six Months' Sight. Rate per Tael Weight of Silver.						London on Bombay. Bank Bills at Sixty Days' Sight. Rate per Rupee.			
	1863.		1864.		1865.		1865.		1866.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
January	6	2	6	9½	6	6	1	11⅞	2	-⅛
"	6	2¼	7	2	6	6¼	1	11⅞	2	-¼
February	6	2¾	6	6	6	4¼	1	11¾	2	-¼
"	6	2⅛	6	4¾	6	4¼	1	11¾	2	-⅛
March	6	2⅛	6	6	6	3¾	1	11¾	1	11⅞
"	6	3¾	6	4¾	6	3¾	1	11⅛	1	11⅞
April	6	7¼	6	5⅛	6	2¾	1	11¼	2	–
"	6	7¼	6	4¾	6	2¼	1	11	1	11⅞
May	6	6	6	4¾	6	-⅛	1	10¾	1	11⅞
"	6	6	6	5¾	6	2	1	10¾	1	11¼
June	6	5¾	6	7	6	1¼	1	10¾	1	11¼
"	6	5¾	6	8¼	6	3	1 11⅛ @ 1 10¾		1	10⅛
July	6	5	7	1	6	3¼	2	–	1	10¼
"	6	4¼	7	–	6	3	1	11¾	1	10¼
August	6	3¾	6	11	6	2⅛	1	11¾	1	10
"	6	4	6	6⅛	6	2	1	11¾	1	10
September	6	3¼	6	8	6	1⅛	1	11⅞	1	10⅝
"	6	2	7	-¼	6	-¾	1	11⅞	1	11¼
October	6	1	6	10⅛	6	2	1	11⅞	1	11¼
"	6	1	6	8¼	6	1⅛	2	–	1	11⅛
November	6	1¾	6	4⅛	6	1⅛	2	–	1	11⅝
"	6	2¾	6	4⅛	6	2	2	–	1	11¼
December	6	5¼	6	6¼	6	2⅝	2	-⅛	1	11
"	6	6¼	6	5	6	2¾	2	-⅛	1	11
Minimum rate	6	1	6	4⅛	6	-⅛	1	10¾	1	10
Maximum rate	6	7¼	7	2	6	6¼	2	-⅛	2	-¼
Variation between *minimum* and *maximum* rates per cent.	8·56		12·42		7·93		6·04		10·23	

From Mr. J. E. O'Conor's Report in "Appendix to Final Report of Gold and Silver Commission," pp. 114—21. Calcutta on London. Documentary Bills. Rate per Rupee in January and July.					
	s.	*d.*		*s.*	*d.*
1843			1858	2	2
	2	-¼		2	1
'44	2	-⅜	'59	2	1¼
	1	11¼		2	-⅞
'45	1	10¾	'60	2	1⅛
	1	11¾		2	-⅛
'46	2	1¼	'61	2	1⅜
	2	3		2	1
'47	2	-¼	'62	2	-¾
	2	–		2	-$\frac{9}{16}$
'48	1	11¼	'63	2	-¾
	1	9⅞		2	-$\frac{11}{16}$
'49	1	10½	'64	2	3
	1	10½		2	1
'50	1	11¾	'65	2	1½
	2	-¼		2	-⅜
'51	2	2½	'66	2	1⅝
	2	-¼		2	1½
'52	2	2¼	'67	2	-⅛
	2	1⅛		1	11$\frac{15}{16}$
'53	2	1¼	'68	1	11$\frac{5}{16}$
	2	1¼		1	11¾
'54	2	1¼	'69	1	11$\frac{13}{16}$
	2	–		1	11¾
'55	2	–	'70	2	–
	2	1¾		1	11⅞
'56	2	2¾	'71	1	11
	2	1¼		1	11⅜
'57	2	2⅜	'72	2	-¼
	2	2⅛		1	11⅜

* In the above table it will be seen that, taking the Calcutta rates of exchange at only two periods of each year, the lowest quotation is 1*s.* 9⅞*d.*, and the highest 2*s.* 3*d.*, a difference of 5⅛*d.*, making the extreme variation in thirty years about 23 per cent. A variation of 1*d.* is a little more than 4 per cent. It will be seen from the table that there might very easily have been premiums of 1, 2, and even 3 per cent. on silver or on gold in London or Paris, due to the exigencies of exchange.

TABLE X.—*Monetary Systems and Approximate Stocks of Money in*

[Re-arranged from a table of the Director of the United

Countries.	Monetary System.	Ratio between Gold and Full Legal Tender Silver.	Ratio between Gold and Limited Tender Silver.	Population. [000's omitted]	Stock of Gold. [000's omitted.]
					£
France	Gold and silver	1 to 15½	1 to 14·38	38,300,	160,000,
Germany*		1 „ 15½	1 „ 13·957	49,400,	123,600,
United States		1 „ 15·98	1 „ 14·95	67,400,	132,200,
Austria-Hungary*		—	1 „ 13·69	41,300,	24,800,
Spain		1 to 15½	1 „ 14·38	17,500,	8,000,
Italy		1 „ 15½	1 „ 14·38	30,400,	19,200,
Belgium		1 „ 15½	1 „ 14·38	6,100,	10,800,
Turkey		1 „ 15⅞	1 „ 15⅞	39,200,	10,000,
Netherlands		1 „ 15½	1 „ 15	4,600,	3,800,
Switzerland		1 „ 15½	1 „ 14·38	2,900,	3,000,
Cuba		1 „ 15½	—	1,600,	3,800,
Servia		—	—	2,200,	600,
Haiti		1 to 15½	—	1,000,	400,
Greece		1 „ 15½	1 to 14·38	2,200,	100,
Roumania		—	—	5,500,	40,
India	Silver	—	—	287,200,	—
The Straits		—	—	3,800,	—
China		—	—	402,700,	—
Japan*		1 to 16·18	—	40,400,	16,140,
Russia		Nominal Ratio. 1 to 15½	1 to 15	124,000,	84,400,
South American States		1 „ 15½	—	34,300,	9,000,
Mexico		1 „ 16½	—	11,400,	1,000,
Central American States		1 „ 15½	—	3,300,	100,
United Kingdom	Gold	—	1 to 14·28	38,100,	108,000,
Egypt		—	1 „ 15·68	6,800,	24,000,
Australia		—	1 „ 14·28	4,300,	21,000,
Portugal		—	1 „ 14·08	4,700,	8,000,
Denmark		—	1 „ 14·88	2,200,	2,840,
Canada		—	1 „ 14·95	4,800,	2,800,
Sweden		—	1 „ 14·88	4,800,	1,320,
Norway		—	1 „ 14·88	2,000,	1,440,
Grand Totals				1,284,400,	780,380,

* Germany and Austria-Hungary are classified among the gold countries by the Director
among the gold and silver countries. I have also changed Japan from the gold and silver
Bank of Japan and in the Japanese Treasury, there is no gold in circulation, and no payments
Bank and by the Government. In March, 1895, the amount of uncovered paper money was

the Aggregate and per Capita *in the Principal Countries of the World.*

States Mint, 1893. Converted into sterling at 1*l*. = $5.]

Stock of Silver. [000's omitted.]			Total Metallic Currency.	Uncovered Paper.	*Per Capita.*											
Full Legal Tender.	Limited Tender.	Total Silver.	[000's omitted.]	[000's omitted.]	Gold.			Silver.			Paper.			Total.		
£	£	£	£	£	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
90,000,	10,000,	100,000,	260,000,	22,000,	4	8	6	2	12	3	–	11	6	7	7	3
21,000,	22,000,	43,000,	166,600,	16,800,	2	10	–	–	17	5	–	6	10	3	14	3
109,400,	15,400,	124,800,	257,000,	93,800,	1	19	3	1	17	–	1	7	10	5	4	1
17,000,	7,000,	17,000,	41,800,	37,400,	–	12	–	–	8	3	–	18	1	1	18	4
24,000,	3,260,	31,000,	39,000,	21,000,	–	9	1	1	15	6	1	4	–	3	8	7
3,300,	—	3,300,	22,500,	35,800,	–	12	8	–	2	2	1	3	7	1	18	5
9,600,	1,380,	10,980,	21,780,	10,800,	1	15	6	1	16	–	1	15	6	5	7	–
6,800,	2,000,	8,800,	18,800,	—	–	5	1	–	4	6		—		–	9	7
10,600,	600,	11,200,	15,000,	7,400,	–	16	6	2	8	8	1	12	2	4	17	4
2,280,	720,	3,000,	6,000,	2,400,	1	–	8	1	–	8	–	16	7	2	17	11
300,	—	300,	4,100,	—	2	7	5	–	3	10		—		2	11	3
380,	—	380,	980,	900,	–	5	5	–	3	5	–	8	6	–	17	4
420,	160,	580,	980,	—	–	8	–	–	11	7		—		–	19	7
200,	400,	600,	700,	4,680,	–	–	11	–	5	5	2	2	6	2	8	10
20,	—	20,	60,	5,000,	–	–	2	–	–	1	–	18	2	–	18	5
190,000,	—	190,000,	190,000,	7,400,		—		–	13	3	–	–	6	–	13	9
22,000,	—	22,000,	22,000,	—		—		5	15	9		—		5	15	9
145,000,	7,200,	145,000,	145,000,	—		—		–	7	3		—		–	7	3
13,000,	—	16,260,	32,400,	—*	–	8	–	–	8	–		—		–	16	–
1,000,	—	8,200,	92,600,	110,020,	–	13	7	–	1	4	–	17	9	1	12	8
6,000,	—	6,000,	15,000,	120,000,	–	5	3	–	3	5	–	3	10	3	18	8
10,000,	—	10,000,	11,000,	400,	–	1	9	–	17	6	–	–	9	1	–	–
1,600,	—	1,600,	1,700,	800,	–	–	7	–	9	8	–	4	10	–	15	1
—	22,400,	22,400,	130,400,	25,400,	2	16	8	–	11	9	–	13	4	4	1	9
—	3,000,	3,000,	27,000,	—	3	10	7	–	8	10		—		3	19	5
—	1,400,	1,400,	22,400,	—	4	17	8	–	6	6		—		5	4	2
—	2,000,	2,000,	10,000,	9,800,	1	14	1	–	8	6	2	1	8	4	4	3
—	1,080,	1,080,	3,920,	1,240,	1	5	10	–	9	10	–	11	3	2	6	11
—	1,000,	1,000,	3,800,	5,800,	–	11	8	–	4	2	1	4	2	2	–	–
—	980,	980,	2,300,	300,	–	5	6	–	4	1	–	1	3	–	10	10
—	340,	340,	1,780,	860,	–	14	5	–	3	5	–	8	7	1	6	5
683,900,	102,320,	786,220,	1,566,600,	540,000,		—			—			—			—	

of the Mint. As they both have in circulation full legal tender silver, I have classified them countries to the silver countries, because, while there is a considerable amount of gold in the are made in gold. Silver is the standard, but there are issues of paper money both by the about 133,000,000 yen, 120,000,000 issued by the Bank and 13,000,000 by the Government.

TABLE XI.—*Coinages of the Principal Countries of the World from* 1792 *to* 1892.

[Calculated from a Table of the Bureau of the United States Mint.]

Converted at 1*l.* = $5.

Countries.	Periods.	Years in Periods.	Coinages of Gold.	Coinages of Silver.	Coinages of Gold and Silver.
			£	£	£
United States	1793-1892	100	317,060,412	122,271,762	439,332,174
Great Britain	1816– '91	76	232,192,015	30,385,189	262,577,204
France	1795– '91	97	337,957,103	205,062,840	543,019,943
Germany	1857– '91	35	124,658,377	55,553,965	180,212,342
Austria-Hungary	'57– '91	35	18,887,895	55,737,584	74,625,479
Belgium	'32– '91	60	23,107,610	20,625,630	43,733,240
Netherlands	'47– '91	45	6,297,673	37,943,870	44,241,543
Italy	'51– '91	41	18,593,170	22,650,007	41,243,177
Switzerland	'66– '91	26	640,297	1,382,005	2,022,302
Spain	'76– '91	16	38,535,469	30,916,032	69,451,501
Turkey	'44– '91	48	28,751,309	8,466,620	37,217,929
Scandinavian Union	'73– '91	19	5,922,793	2,334,713	8,257,506
Portugal	'54– '91	38	1,637,027	4,162,751	5,799,778
Russia	'00– '91	92	193,082,283	46,819,796	239,902,029
Greece	'67– '85	19	463,200	1,013,746	1,476,946
Roumania	'79– '84	6	146,873	3,018,520	3,165,393
Servia	'82– '85	4	386,000	173,700	559,700
Bulgaria	'83– '85	3	—	432,024	432,024
India	'35– '91	57	2,342,166	315,068,662	317,410,828
Japan	'71– '91	21	12,685,922	22,334,251	35,020,173
Egypt	'30– '91	62	2,707,823	1,843,921	4,551,744
Australasia	'55– '91	37	110,083,666	295,883	110,379,549
Mexico	1792– '91	100	15,945,081	346,659,674	362,604,755
Chili	1872– '88	17	13,185,482	7,661,355	20,846,837
Argentine Republic	'82– '88	7	5,287,763	542,128	5,829,891
Brazil	'49– '91	43	1,297,660	2,282,513	3,580,173
Columbia	'68– '91	24	610,693	1,143,836	1,754,529
Venezuela	'74– '91	18	132,100	499,198	631,298
Central American States	'29– '77	49	463,676	74,784	538,460
Total	—	—	1,513,061,488	1,347,356,959	2,860,418,447

DISCUSSION *on* MR. BARR ROBERTSON'S PAPER.

MR. I C. PROBYN wished to draw attention to Table X, which was somewhat misleading. Practically it went to show that 70 per cent. of the population of the world had a silver standard, 25 per cent. a gold and silver standard, and 5 per cent. a gold monetary system. He had lately worked out the figures carefully himself: he estimated the world's population at about 1,500 millions, and on that assumption arrived at the conclusion that the countries with a silver standard proper were about 32¼ per cent. of the whole population; monopoly silver countries (India, Ceylon, &c.), 21·2 per cent.; ineffective metallic standard countries (which in the paper appeared to be classed principally under silver), about 18½ per cent.; and gold standard countries (with gold currency, gold and silver currency, and silver currency), 18½ per cent. [Mr. Probyn here handed in a table, which will be found printed on p. 479.]

Mr. Barr Robertson had said that prices in this country were not strictly gold prices, but were the prices of partial bimetallism. This strange assertion appeared to be the result of the quantitative theory of money on which the author had based all his arguments. He thought that this quantitative theory of money was the result of losing sight of the distinction between the function of the precious metals as a standard of value and as a medium of exchange. In England the standard of value was gold, not merely the gold in circulation and the gold in the Bank of England, but all the gold in the world. But what was frequently mistaken for the standard was that portion of the standard commodity which was used as the medium of exchange, and thus it came to be assumed that prices were regulated by that quantity of the standard which might happen to be used as the medium of exchange. It seemed to him perfectly clear that this quantity could not be the regulating factor, for, as Jevons pointed out, it was an essential characteristic of metallic money that it yielded no profit by being kept in the pocket or the safe; consequently everyone tried to do with as little as possible, and the amount used as a medium of exchange was limited to the quantity needed to carry out exchanges in the most economical way. Any excesses pumped into the medium of exchange through the mints passed out into the market as any other commodity, to be absorbed in arts and manufactures or by other countries. Mints were not insatiable customers. Bagehot had foretold the settlement of the silver difficulty by the increased absorption of silver by India for mint purposes, and the consequent rise in silver prices; but the event had proved very different, for, as Mr. F. C. Harrison had pointed out, India had practically absorbed very little more silver for currency purposes. The mints were merely insatiable because they were backed by insatiable customers for hoards and ornaments. The same lesson could be learned from the United States, where prices had not been raised by the quantity of currency, but forced additions to the currency had merely had the effect of driving out that part which could be best got rid of. There had been a superabundance of gold in this country during the last two years, and yet Mr. Barr Robertson attributed the fall in prices to the scarcity of a circulating medium, and gravely told them that we had only been saved from a further fall by being under partial bimetallism.

He regretted that the author had said nothing as to a ratio, for it was on this ratio that the whole matter depended. It was generally admitted that Mill was right in saying that where there were two legal standards, that one of the two would always be the real standard, of which the real value had fallen below the rated value. If they would tell him which standard they wanted, he (Mr. Probyn) could name a bimetallic ratio by which it would be secured. A ratio of 50 to 1 would probably secure a gold standard, while 15½ to 1, or lower, would with equal probability secure a silver standard. The practical point was that if Mr. Cernuschi and those who thought with him had their way, England would soon find herself, not with what is generally understood as bimetallism, but with a silver standard.

Professor H. S. Foxwell said there were one or two observations which had fallen from Mr. Probyn on which he would like to remark. Mr. Probyn had denied the general proposition which ran through the whole of Mr. Barr Robertson's paper, viz.: that the level of prices bore some relation to the quantity of metallic money, a proposition which he thought they would find affirmed in every recognised treatise on Political Economy. He would invite Mr. Probyn to tell them upon what prices did depend; for he presumed they were not purely fortuitous.

Mr. Probyn said, on the value of gold.

Professor Foxwell said, precisely. But would Mr. Probyn say that the value of gold bore no relation to the extent of the monetary demand for gold? Did he contend that the value of gold was something absolute, and that if no gold were used as money to-morrow, gold would have the same value as it had to-day? If not, he must admit that the wider the demand for gold for monetary purposes, the larger the number of nations using gold, the higher would be the value of gold.

Mr. Probyn said it was the demand once for all for the amount required for currency.

Professor Foxwell said he did not admit that any fixed amount was required for currency, or that there could be any demand "once for all." The demand depended upon the volume of transactions requiring the use of gold. In this he included not merely the small transactions actually made by the transfer of gold coin, but also the much larger volume of transactions immediately liquidated by means of credit instruments, which required that there should be held, somewhere or other, sufficient reserves of metal to maintain the belief in their convertibility. These reserve demands constituted a most important part of the demand for gold, and therefore played a large part in determining the value of gold. It might be said that what he had so far alleged only went to show that the monetary demand for gold was one of the constituent elements in the demand for that metal, and therefore in the determination of its value. But he would now go further, and say that it was the one most easily extensible, most elastic, and therefore the one which was most responsive to fluctuations in the supply. No doubt there were also demands for gold on account of the arts, or industrial use, and for purposes of hoarding. But they were practically justified in assuming that these latter demands did not very suddenly alter. Hence if there were any alteration in the supply of a precious metal, that would produce its effect mainly on the monetary employment of the metal. It would be sent to those "insatiable customers" of which Mr. Probyn spoke, the open mints.

To illustrate this they might refer to what took place in the case of the Californian and Australian discoveries of 1850-52. There was a very large increase in the production of the precious metals; gold in particular increased to ten times what it was in the decade 1831-40. Was it reasonable to suppose that the demand for use in the arts could suddenly increase to anything like that extent? Was there a sudden increase of tenfold in the demand for watch cases, or any other industrial purpose for which gold was used? Did the desire to hoard gold suddenly increase ten-fold? Evidently not. But there was one unlimited market for gold. The great bulk of the gold as a matter of course went to the open mints of Europe. It was converted into legal tender money, became purchasing power, and raised prices; the effect on prices however being somewhat checked by the stimulus given to the expansion of trade. They might see from Mr. Barr Robertson's tables what quantities of gold were as a matter of fact presented at the mints of this country and France. These facts could not be denied.

What perhaps rather militated against the acceptance of this view in peoples' minds at the present day was the other conspicuous fact that in England, and in other advanced countries, they did not use large quantities of gold or silver *coin*. That was perfectly true. The demand for the purpose of coins for circulation was certainly not insatiable. In Scotland and America gold coin was hardly used; in England the use was very limited. But he must maintain that, notwithstanding this, the monetary demand for gold in this country was as unlimited as if coin were freely used. It was not a coinage demand. The monetary demand was constituted by the Fourth Clause of Peel's Act of 1844, which binds the Bank to buy absolutely without limit any amounts of gold bullion offered, at the fixed price in notes of 3*l.* 17*s.* 9*d.* per ounce. He did not see how, so long as that provision remained in force, there could be any limit to the monetary demand. The gold was of course not necessarily *coined*, but nevertheless it circulated as money in the form of legal tender notes. The metal lay in the bank in bars as reserve. It formed the foundation of the great mass of credit currency issued by the bank: and if, or so far as, the notes issued against it were held by the banking department, then it formed the great banking reserve, the only considerable reserve in this country. In this capacity it discharged a function far more important than that of coined gold. It represented the only fund of legal tender standing against the enormous credit liabilities of this country, which were not less than 700,000,000*l.* This was emphatically a monetary use; he would say, the principal monetary use made of metal in modern times.

To pass to another point, Mr. Probyn disputed Mr. Barr Robertson's statement that we were, even in this country, upon a system of partial bimetallism. Mr. Probyn held that we were on a gold standard pure and simple. Did he really maintain that the annihilation of the full weight legal tender silver now used in the world would produce no effect on the value of gold? It seemed to him that it would produce an enormous effect. Let them cancel the 50 millions sterling in the Bank of France, the mass of silver certificates, the vast silver coinages of the East, and they would soon see in the increased demand for gold, and the consequent fall of gold prices, whether or not they were at this moment upon a standard of partial bimetallism. We were all to some extent indebted to the co-operation of silver for the maintenance of the level of prices, though it was to be desired that this co-operation might be made more free and effective.

A word as to the ratio, a question in which the opponents of bimetallism seemed to be greatly interested. He did not think that it arose strictly out of the paper read, but Mr. Probyn had introduced it. Mr. Probyn had said (if he followed him correctly), that if they would tell him what standard they wanted, he would name a ratio by which it would be secured. 50 to 1, he said, would give them a gold standard, while 10 to 1 would give them a silver standard. He was not going to dispute these assertions. But as they wanted neither a gold nor a silver standard, but a bimetallic standard, and as there was no question of ratios so extreme as these mentioned, he would have been glad to hear Mr. Probyn's views as to the effect of the adoption of the intermediate ratios. Upon what standard would they be, as the ratio ranged between the two extremes mentioned by Mr. Probyn? It might be presumed that within a certain range of ratios both metals would remain in circulation. These were the only ratios that possessed a practical interest for him as a bimetallist.

Mr. John Glover said that the paper showed that the French currency system from 1785 till 1873 had suited that country, and he thought that no one in England was disposed to quarrel with France for adopting what seemed most suitable to its particular circumstances. In England they had a very different system, and there were no very apparent signs that it had not suited them. He had been struck, however, with the fact that the paper did not contain any adequate explanation why France had, partly in 1873 and completely in 1878, abandoned the system of which the paper before them was a glowing eulogium. An examination of these reasons would have been interesting, with a view to determine whether they were still valid, and, if not, whether a return to the system abandoned in 1873 was either possible or desirable in the present circumstances of the nations, and with the greatly increased difference now subsisting between the value of the two metals.

It was not necessary to deny nine or ten of the author's conclusions which showed how satisfactorily this method of currency had answered in France. But the question at issue was what was to be done now, and the first speaker had pointed out that they wanted to know precisely what was the change recommended. It was very well to say that they wanted an interchangeable money, but the onus of showing what the precise change should be lay on those who demanded it. No progress could be made until the precise change asked for was made clear, and until it was shown how it could be carried into effect, and the probable results of the change. Surely these were reasonable requests to make from the advocates of a change in a method of currency which had answered their purpose since 1818 quite as well as the other system appeared to have answered the purpose of France. Monometallists had at present nothing specific to answer.

They had been told that the present great depression in trade was due largely to the inadequate amount of money. There was no evidence whatever of any scarcity of money: it seemed rather the contrary—that the available supplies for trade purposes were in excess of the demand, otherwise the rates of discount would not be so low. There had been many periods of depression prior to 1873 in spite of the partial bimetallic arrangement then in force. Showing that general prices were lower did not exhaust the matter, unless they considered various other circumstances which had affected prices. It was cheaper now to produce almost everything; there were far more producers; the means of transit, both internal and over sea, were so much cheaper that it was reasonable to believe that an enormous reduction of prices would have resulted from these causes even if bimetallism had remained in operation. It had always seemed to him that due allowance was not made for many factors in the discussion of this subject. In the first place, Englishmen were not enemies of silver; they used a great deal of it, and the Government was favourable to any practical extension of its use which did not tamper with the gold measure of value on which everything English was based. Why should it be otherwise, seeing that the Government made an enormous profit out of silver coins? Another point forgotten was the tendency towards the disuse of both metals in business: the perfection to which the system of cheques and bills had now been carried dispensed with the necessity for gold or silver, except as a measure of value. The telegraph was also now beginning to play an enormous part in all monetary transactions, and especially in large international transactions. With this increasing tendency to the disuse of metals, it seemed to him increasingly desirable that the gold measure of value should be continued.

Mr. HERMANN SCHMIDT pointed out that while Mr. Probyn put the population using a silver standard at 32 per cent. of the world's population, Mr. Barr Robertson made this proportion

70 per cent. If such a difference of opinion could exist, there must be something radically wrong in the world's currency. But the point was really difficult, and he would defy anyone to explain satisfactorily the position of Russia, for instance, which country was nominally on a silver standard, but actually had paper money rated to gold at prices periodically fixed by Government. Mr. Probyn had said that prices in gold countries were not influenced by bimetallic prices; he was surprised at such a statement, for he had himself always understood that it was generally admitted that the prices of staple commodities were the result of circumstances affecting the whole world. Mr. Robertson was therefore justified in saying that up till 1873 the gold prices in England had been partially based on the bimetallic conditions elsewhere. Mr. Probyn appeared to hold that gold had a value of its own independent of quantity; this was a theory which he (Mr. Schmidt) could not understand, for the value of gold depended on its quantity. It was possible that the value depended not alone on the quantity, but on the quantity multiplied by the rotation, *i.e.*, on the quantity and the substitutes based upon that quantity. Bimetallists did not forget paper money, but they remembered also that paper must bear a certain relation to the gold, which relation could not be neglected. Mr. Glover had said that gold would soon be dispensed with; but that was not the case, for by paying with cheques the only economy was in dispensing with the necessity of carting the gold about. Mr. Probyn also said that nobody kept gold because it yielded no profit; why, then, had people been most eager to accumulate it during the last twenty years? As a result of this accumulation they did not quite know what to do with it to-day, and were anxious to lend it out at almost no interest. With regard to the insatiability of mints, that depended on the solvency of the country. They were insatiable in solvent countries like England, France, and Germany, but at Buenos Ayres, where gold commanded a premium of 250 per cent., none was brought to the mints. The mint prices at London, Paris. and Berlin constituted an absolute minimum of gold prices, and herein lay the value of this paper, for the author had shown most clearly that the minimum price in France was absolute and reliable. By calculating the freight and insurance, they could at any time put down the price of silver almost at the exact parity of the exchange. This was important, since it was alleged that the bimetallic law in France had been ineffective. No doubt, with a gold country like England on the one side and a silver country like India on the other, a demand had arisen in France at different times for one metal or the other, but the minimum had always been kept at 15½ to 1. If the whole world were bimetallic, there would be no special demand for gold or silver; but as it was probable that China and Japan, at least, would remain outside such a league, there might be a premium on silver, but never on gold. He would ask, with reference to the question of silver or gold flowing out of a country, where it would go to if the chief countries of the world united to adopt bimetallism? In Berlin they said the gold would all go to England at a ratio of 15½ to 1; in Paris they said it would go to England and Germany;

while in England Mr. Probyn said it would go to France. In conclusion, he wished to emphasise the importance of the paper in disproving the assertion that France had failed to maintain the ratio of 15½ to 1.

Mr. J. H. TRITTON thanked the author for having placed the French statistics so clearly before them. He accepted these statistics, but dissented altogether from the conclusions. These figures showed clearly that at different periods France had been as a nation buying one metal and selling another. He wished that the author had added a diagram showing the difference between the commercial and legal ratios, for it would have showed that when gold was flowing out of France, and silver flowing in, the commercial ratio outside France was lower than the legal; *i.e.*, silver was of greater value for coinage purposes in France than elsewhere, and therefore flowed in. The bimetallic *régime*, in France or elsewhere, gave the bullion dealers many more opportunities for exercising their knowledge than any other system. It was perfectly well known when a drain of gold set in in London, for it was the only standard, and had to be taken from the central store. The Bank of England protected that store by raising the rate of discount, and it was a matter of notoriety that gold was leaving the country. Under the bimetallic system, either metal could leave the country without being drawn from the central store, for that central store refused to part with the metal if exportation was apprehended, and the demand fell on the circulation. The statistics to his mind proved that it was a bimetallic country like France which suffered at the hands of the bullion dealers. He only remembered one analogous instance in this country, and that was the time when the "dragon" sovereigns were picked out from the other gold in the banks, as being worth 4*d.* more for exportation than the other gold coins. Under the bimetallic system, whichever metal was being driven out under the action of the law would be picked out in a similar way, and every trader handling coin on a sufficiently large scale would be tempted to "pick and cull;" the metallic circulation of the country being thus insensibly and secretly acted upon.

Mr. ROBERT BARCLAY said that the author of the paper had shown that during the whole period in which the currency of England was supposed to be based on a monometallic standard, the country had actually been getting the advantage, through the French mints, of a bimetallic standard. The mints in France had practically maintained the two metals at a uniform ratio, for it was impossible for the ratios to be very far apart in London and Paris, so long as the mints in France were open for the coinage of both metals. There might be alternations in the relative quantities of gold and silver in the French currency at different times, but the standard was unaffected by this, and the coinage figures demonstrated most clearly that there had been a really stable standard in France, at the ratio of 15½ to 1, throughout the whole period that the mints were open. If when England became monometallic France had

had gold monometallism, great as was the crisis which followed England's action, it would have been still more severe, and even greater depression of prices would have been witnessed than had actually occurred. France had also by her bimetallism broken the full effect of the wonderful increase of gold supplies at the time of the gold discoveries. Mr. Probyn said that bimetallism was based on erroneous ideas with regard to the quantitative theory of money. If the exchangeable value of money as against commodities was not based on the quantitative theory, on what was it based? Money as against commodities had its value determined by the higgling of the market. In times of barter a man gave a certain quantity of one thing for a certain quantity of another—that was a quantitative operation; and so also when he began to use money and gave so much gold or silver; and now, when money had become a more complex institution, the same principle was still in operation. Credit did not interfere with the principle, for it was all based on metallic money. Mr. Probyn had pointed to the great amount of loanable money in the market as showing that there was no want of money; it seemed to him (Mr. Barclay) that this abundance of loanable money indicated a condition of things which must necessarily be accompanied by great pressure upon metallic money. What was this loanable money but capital in the liquid form which gave its possessor a lien upon metallic money, and why was there so much loanable money in the market? Because the possessors of it preferred keeping it in this liquid form, and lending it, rather than investing it in ordinary securities. People in times like these persisted in keeping more of their capital in money rather than invest it in other things, because through falling prices they would be able to do better with it the longer they held it. Metallic money was the basis of value: and the greater desire to hold market money characteristic of present times, necessarily implied a larger lien upon the stocks of the precious metals, and was at once both a symptom and a cause of the appreciation of gold.

Mr. A. S. HARVEY hoped that the author would add a table showing the ratio between gold and silver from 1803 onwards, and so add to the utility of his paper, which he hoped would furnish material for many arguments in support of the maintenance of the gold standard. The main contention of the paper was to show that the action of France had resulted from 1803 to 1820 and from 1848 to 1867 in giving stability to the ratio between the two metals. But there was nothing to upset the contention of the supporters of the gold standard that there had been an alternate standard during those years. Between 1803 and 1820 gold was at a premium, and France was essentially a silver standard country. The ratio in those years was nine times over 15·5 and nine times below, the average being about 15·57. During the period following the gold discoveries, from 1848 to 1867, France had been a gold standard country. Only in five years during the twenty had the ratio been over 15·5; in the other fifteen it was below, the average being

15·4. He therefore held that there was nothing in the paper to upset the contention that France during those periods was a country with an alternating standard.

Next, as to the quantitative theory of money on which the bimetallists practically based their theory. They alleged that they had not left the influence of credit out of consideration, but they had wonderfully minimised it. So far as he as a practical banker could see, the most important factor in prices was credit. With credit of course was involved the element of confidence, and then that still more difficult element, the level of enterprise, had to be considered; and the question became so subtle that it was almost impossible to analyse it adequately. There certainly was a relation between gold money and the general level of prices, but it was not marked out with such clearness that the quantitative theory as generally expounded could be based upon it. It was true, no doubt, as had been contended, that gold prices in gold countries were affected by the silver prices of silver countries. Well, and so they were affected by railways, for example; in short, by all the factors of production and exchange. Gold standard men had no pet theory of their own to set up, but they maintained that the bimetallists had attached to the quantitative theory a scope and an influence which did not rightly belong to it. Now as to the relation of bimetallism to the general interests of the community. Only once in this paper had Mr. Barr Robertson recognised that cheapness was a good thing, and that was in section 10 of the conclusion, where it was stated that the enormous increase in the imports of silver into India had assisted materially in mitigating the pressure of the new gold in Europe, and thus in keeping prices from rising to a much higher level. Apart from this remark, the general drift of the paper was to maintain the fundamental contention of the bimetallists that what was wanted was a general rise of prices. In other words, they inscribed dearness on their banner, while the advocates of the gold standard desiderated abundance and cheapness. All bimetallic papers proceeded on the assumption that dearness was a good thing; gold standard men controverted that theory altogether.

The last speaker confounded money and loanable capital; they were different things altogether. The trouble in London now was the lack of enterprise; there were no outlets for the capital waiting employment. But this would not be helped if they had in London the vast stores of silver that there were in Paris and New York. If the Latin Union had done so much good, why did it come to an end? It was maintained so long as there was a certain level of silver brought to the mints, but when silver overflowed, the French nation refused to coin any more of it. But if the Latin Union chose to go on re-coining silver money, or to adopt any other form of the quantitative theory which would result in an alteration of prices all round, they were quite at liberty to do it. But through a long course of years the whole world had become indebted to England to an enormous amount. The whole of the loans had been advanced in a certain number of ounces of gold of a certain weight and fineness, or in materials bought with gold of that weight and fineness; and all that they asked was to be repaid in coin of the same weight and fineness.

M. EDMOND THÉRY said that it was clear that English gold monometallists raised the same objections of a local character as were urged against French, German, and American bimetallists. They maintained that the free coinage of silver would, in virtue of the Gresham Law, drive the gold sovereigns out of England; but they used the same argument in France, in Germany, in the United States, and in Holland. They forgot however to say to what point of the globe the gold from all these countries—*i.e.*, some 14 or 15 *milliards* of francs—would be exported, if by a common agreement these nations created *international bimetallism.* This simple remark removed the very essence of the objection, which might perhaps be reasonable in the case of a single country taken by itself, were the free coinage of silver adopted by that country alone; but the objection could no longer exist if the measure were applied at the same time and in an identical manner to all these great powers—at present actually on a gold standard. The English monometallists further reproached French bimetallism, as it existed between 1803 and 1873, with having only imperfectly maintained the ratio of 15½ to 1, and they picked out divergences of as much as 3 per cent. That was true, but they forgot to add that, even when this divergence did reach 3 per cent. (which was nothing compared with what had occurred since), part of this divergence was due to the different treatment applied to the two metals. They forgot to add also that during the whole of this period French bimetallism was alone in bearing not only the enormous fluctuations in the production of gold and silver, but also the monetary shocks, and the fluctuations in exchange resulting from the economic crises in Europe, America, and in India. English monometallists alleged also that France from 1803-73 had but a single standard, sometimes gold and sometimes silver, because the appreciated metal was always exported. That was the finest testimony which they could render to French bimetallism, for they thus proved its international influence. Thanks to it, gold and silver circulated freely in the world according to the special wants of gold standard or silver standard countries. Had not English commerce been the first to profit by this system? Was it not evident that with *international,* instead of the *local* bimetallism of 1803-73, these slight imperfections, which were due merely to the local bimetallism, would disappear of themselves together with their cause? To sum up, the objections urged against the principle of bimetallism had had the double advantage: (1) of showing its absolute necessity for the economic interest of those great countries whose commerce and credit extended over the whole world; (2) of establishing decisively that this bimetallism must be international, *i.e.,* it must unite in a common system the principal nations actually on a gold standard. In France they hoped, for the especial good of the great European countries, and for the good of humanity in general, that the efforts of English bimetallists might be crowned with success.

Sir **Guilford Molesworth** wished to point out the error into which Mr. Harvey, in common with Mr. Giffen and Mr. Macleod, had fallen with regard to the alternating standard. Mr. Giffen stated, for instance, that during the years 1820 to 1847 France was partly a silver country, as proved by the fact that there was constantly a premium on gold, but that after that time it had been a gold standard country. But, in fact, there had been a premium on both metals at the same time during the whole period, and in some cases, notably in 1824-25, the premium on silver was absolutely higher than that on gold, when France was supposed by them to be a silver country. Hence France, having a premium on both metals, was, even on the lines of Mr. Giffen's argument, both a silver standard and a gold standard, *i.e.*, a bimetallic, country. Mr. Giffen stated that France had abandoned bimetallism because the supply of silver had become so large that they were unable to keep up the ratio; but this was contradicted by the fact that in 1872 and part of 1873 the premium on silver was actually higher than that on gold. The first restriction of the mintage of silver was by a decree dated 6th September, 1873, and at the beginning of that month the premium on silver was 8½ per mille. The reason for ceasing to coin silver was partly due to the false political economy on currency questions then prevailing in Europe and partly to the desire of France to embarrass Germany; and it was only just about the time of the absolute restriction that the premium on silver fell to a discount.

Mr. **Barr Robertson** said that at the unusually late hour to which the discussion had extended, it was impossible to undertake to reply, but he would, with the Society's permission, add in the *Journal* a few comments.

After what Professor Foxwell, Mr. Schmidt, and Mr. Barclay had said, it was unnecessary to reply to many of the points of objection which had been taken by Mr. Probyn, Mr. Glover, Mr. Tritton, and Mr. Harvey. At the same time it might be pointed out that Mr. Probyn's statement that "any excesses" of precious metals "pumped into the medium of exchange through the mints passed out into the market as any other commodity. to be absorbed in arts and manufactures, or by other countries," was a complete mistake. It was not the arts but the circulating medium which must absorb the excess, because the excess existed after the demand for the arts was satisfied, and thus mints were insatiable customers. As to the failure to deal in the paper with the question of the ratio, the reason was very clear. The paper did not in any sense deal with the monetary controversy which had been going on for the last ten years, and it was expressly written so as to avoid this controversy. It dealt statistically with the practical working of bimetallism as it existed in France and other countries, and did not in any way attempt to discuss the proposals for a solution. The last remark also applied to Mr. Glover. The object of the paper was to set at rest the disputed question as to the maintenance of bimetallism in France particularly, and the statistics in this paper demonstrated beyond doubt that bimetallism was maintained with complete success.

Mr. Tritton stated that the figures in the paper "showed clearly that at different periods France had been as a nation buying one metal and selling another." It was only necessary to explain that the movement of gold flowing into France, and of silver flowing out, between 1850 and 1865, was entirely automatic, and the French people exercised no choice whatever in the matter, as they had left their mints open to both gold or silver, and thus left the movement of the precious metals perfectly free. In regard to the difference between the legal and commercial ratios, it was pointed out in the paper that one-half of the whole of the gold and silver that entered France was coined at the legal ratio, and, therefore, the commercial ratio could only apply to about one-half of the gross amount of gold and silver that entered France. The half that was tendered at the mint at the price of 1 to 15½ was left entirely out of sight by the opponents of bimetallism, yet that was the half that alone entered into the monetary circulation, and thus into bimetallic money. As to the "picking and culling" of coins, that could be done as easily with gold coins under gold monometallism as with gold and silver coins under bimetallism.

To Mr. Harvey's remarks it was sufficient to repeat that the entire figures in this paper went to prove that there was no alternate standard in France during the bimetallic period, because there was no time when gold and silver were not both present in the French circulation. [Table V had been added in the Appendix to show the ratios from 1803 to the present time.] It was satisfactory, however, that Mr. Harvey admitted "there certainly was a relation between gold money and the general level of prices," as that was the key to the monetary question. Bimetallists favoured the cheapness that came from abundance, but they did not favour the cheapness that was the result of a contracting currency; and if cheapness was not dealt with at all in the paper, it was because it was never intended to include in the paper a discussion of topics of that kind. Mr. Harvey asked why the Latin Union came to an end, and the answer to that was that for political reasons France refused to keep its mints open to Germany at the time when Germany was trying to get rid of its silver so as to pass to the gold standard. In regard to loans, Mr. Harvey said that all the monometallists asked "was to be repaid in coin of the same weight and fineness." On the other hand all that the bimetallists asked was that some reasonable method should be adopted by which, while the coin to be repaid was of the same weight and fineness, it should also have approximately the same purchasing power. In the last twenty years the purchasing power of gold had enormously increased.

Approximate Distribution of the Population of the World according to Monetary Standards. *By* L. C. PROBYN, ESQ.

Monetary Standard.	Principal Countries in each Group.	Population in Millions.	Percentage of Whole.	Remarks.
GOLD.				
(*a.*) With gold currency	Great Britain and her gold using colonies, Scandinavia, Egypt	70	4·67	
(*b.*) With gold and silver currency	United States of America, Germany, France, Belgium, Switzerland, Holland, Roumania, Bulgaria, Venezuela, Uruguay	176	11·73	In Venezuela and Uruguay alone of the South American States, is the currency at par with the gold which it professes to represent.
(*c.*) With silver currency	Part of Dutch East Indian possessions, British West Indian possessions	33	2·2	
Total GOLD	—	279	18·60	
SILVER.	China, Japan, Corea, French further India, Siam, Persia, Mexico, Peru	484	32·27	The population of China has been taken at 378 millions, and the whole has been shown as silver, although in some parts the real standard is not silver, copper cash without any fixed relation to silver, bricks of tea, and other devices being used to regulate exchange.
INEFFECTIVE METALLIC	Russia and Turkey and their respective dependencies; Austria, Italy, Spain, Portugal, Greece, and all the Central and South American States except Peru, Venezuela and Uruguay	278	18·53	This group includes various degrees of ineffectivity. It includes, for instance, countries apparently so near a gold standard as Chile and Austria, and so far off as Paraguay where the gold premium was the other day upwards of 500 per cent. It is doubtful whether some of the dependencies of Turkey should not have been classed as monopoly silver.
MONOPOLY SILVER	India and Native States, Ceylon, Mauritius, Morocco, Philippine Islands	318	21·2	The native States of India are practically on the same footing as regards coinage as the paramount power. In the Philippine Islands the Mexican dollar has a monopoly value owing to its importation being prohibited.
BARTER	Africa and some of the Oceanic Islands	141	9·4	
		1,500	100	

COMPARATIVE STATISTICS *of the* PRINCIPAL BRITISH POSSESSIONS *and* FOREIGN COUNTRIES. *By* EDWIN C. NOWELL, *late Government Statistician, Tasmania.*

I HAVE long been desirous of doing some work for the Royal Statistical Society, in order practically to show my sense of the honour which the Society was pleased to confer upon me in making me an Honorary Fellow. The movement in favour of federation and consolidation of the Empire, which is now occupying so much of men's thoughts both at home and especially in these colonies, seems to present a fitting opportunity for taking a general survey of the most important British possessions, and also contrasting their material condition and progress with those of the principal foreign countries, in so far as the particulars supplied in the "Statistical Abstracts" for the colonial and other possessions of the United Kingdom and for foreign countries, compiled by the Board of Trade, enable us to do so.

With this object in view the appended tables have been compiled. They show, first, the absolute increases and decreases, and secondly, the increases and decreases per cent.

It will be observed that in regard to foreign countries there is a great diversity, excepting only as regards imports, exports, and shipping, in the periods. It would have been much more satisfactory if the same period could have been used in all cases, but the materials at hand did not permit of this; and in making comparisons with other countries, due allowance must therefore be made on this account. But, as the dates are given in every instance, experienced statisticians will find no difficulty in doing this.

The period for the British possessions is in every case the fifteen years 1879 to 1893. Here, therefore, we shall be quite safe in taking the figures as they stand; but, of course, any comparisons which we may make must not be regarded as final and conclusive. We can only make out a *primâ facie* case from them, subject to such modifications as a closer investigation of the individual circumstances may require.

Statisticians know well that mere absolute numbers are of small importance in work like this. They mean hardly anything until they are reduced to some common measure or standard, so that their relative significance may be at once seen. This has been done in the tables or columns showing the increases and the decreases per cent. To these tables and columns, then, I shall, as a rule, confine my remarks.

Taking the British possessions first, we begin with—

I.—*Population,*

to which all the other matters will have reference.

Comparing the population in 1881 and 1891, Queensland stands highest, having a percentage of increase of 84·39. Western Australia comes next with 67·57; then the Cape of Good Hope, making allowance for the territory added during the period, with 66·33; New South Wales, with 55·07; Hong Kong, with 38·05; Natal, with 35·07; Victoria, with 32·24; New Zealand, with 29·42; Tasmania, with 26·76; the Straits Settlements, with 21·01; South Australia, with 14·49; Canada and Newfoundland,[1] with 11·70; the West India Islands, with 11·60; British India and Guiana, with 11·26 each; and lastly, Ceylon, with 8·82. It will be seen that the Australian group, with the exception of South Australia, stands high in the comparison. With that exception, they overtop all the others, save the South African colonies and Hong Kong. Taking the Australasian colonies together, their aggregate percentage (40·39) is higher than that of any of the other possessions except the Cape of Good Hope. The two other largest British possessions, India and Canada (the latter, like Australia, with an immense extent of unoccupied territory) have only between 11 and 12 per cent. The contrast is very striking, and shows what the southern colonies may become within no remote limit of time.

II.—*Public (State) Revenue.*

Here Western Australia, in consequence of its wonderful gold discoveries and the gift of self-government, stands first, its percentage being 190·69; the population having increased by 119 per cent. between 1881 and 1891. Next in order comes the Cape of Good Hope, 138·56; Queensland, 128·69; Natal, 125·92; Hong Kong, 115·55; New South Wales, 112·26; Tasmania, 88·24; Canada, 65·83; South Australia, 63·68; British Guiana, 52·31; Victoria, 50·58; New Zealand, 40·61; the Straits Settlements, 38·61; the West Indian Islands, 37·91; and last of all, British India, 31·77. The increase for Australasia, taken as a whole, was 77·09. Ceylon is the only one among these countries which showed a decrease.

It is important to see how the increases in revenue compare with the increases in population. This is shown in the following list, where the figures denote the numbers of times by which the percentage increase of revenue exceeds that of population:—

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[1] Canada has been taken as including Newfoundland throughout this paper.

India	2·7	Queensland	1·5
Straits Settlements	1·8	Tasmania	3·3
Hong Kong	3·0	New Zealand	1·4
Australasia	1·9	Natal	3·6
New South Wales	2·0	Cape of Good Hope	2·1
Victoria	1·6	Canada	5·6
South Australia	4·4	West India Islands	3·3
Western Australia	2·8	British Guiana	4·6

It appears, therefore, that in relation to population, the increase of revenue was greatest in Canada; then in Guiana; next in South Australia; after which follow in order Natal, Tasmania, and the West Indies, Hong Kong, Western Australia, India, the Cape, New South Wales, the Straits Settlements, Victoria, Queensland, and New Zealand. Australasia, as a whole, ranks slightly above the Straits Settlements.

Customs Revenue.

The largest increase, as might naturally be expected, in view of the "boom" in gold mining, was in Western Australia, the rate there being 186·67. The next largest was in Queensland, 115·93; then in New South Wales, 94·11. Canada had an increase of 61·30; the Cape of Good Hope 54·63; Australasia, as a whole, 53·43; Tasmania, 42·95; Guiana, 40·79; New Zealand, 32·87; Victoria, 29·94; the West Indies, 20·27; South Australia, 5·62; and Ceylon, 3·27; while in India and Natal there was an actual decrease. It will be remarked that in Ceylon, Victoria, South Australia, and the Cape of Good Hope, as well as in India and Natal, the rate of increase in customs revenue was below that of the population. To what this somewhat singular fact is attributable it is impossible to say without a special investigation into each case. It might be the result of imposing new duties, of diminished ability to purchase, or, of increasing independence of outside supplies.

III.—*Public (State) Debt.*

Under this head the increases are mostly large, and much in excess of those of the population. There is an essential difference, however, between these and other increases of the public burdens, in that the debt is incurred for special purposes, and does not form part of the ordinary and permanent expenditure of the State. The greater part of it has been contracted for the purpose of facilitating internal communication by means of railways, roads, bridges, and telegraphs, and the expenditure, so far as any particular work is concerned, ceases when it is completed. The result is, as we shall presently see, a very large increase in the mileage of railways and telegraphs.

During the period between 1879 and 1893 Natal had an increase of 400·72 per cent. in its public debt; Tasmania, 327·89; Ceylon, 304·84; New South Wales, 297·19; South Australia, 238·48; Queensland, 197·09; Guiana, 189·28; the Cape of Good Hope, 167·52; the West Indies, 139·65; Victoria, 129·30; Western Australia, 69·59; Canada, 68·12; New Zealand, 62·26; India, 39·00; the aggregate debt of the Australasian Colonies being 166·24 per cent. in excess of the amount in 1879.

Another way of regarding the public debt is to compare the amount with the revenue of the country in question. How many years' revenue does it amount to? This is shown below for the year 1893, and in the case of India for 1892:—

Tasmania	10·8	New South Wales	6·2
Queensland	9·0	Cape of Good Hope	5·6
New Zealand	8·8	West Australia	5·0
South Australia	8·1	Ceylon	2·6
Canada	7·7	British India	2·5
All Australasia	7·4	West Indies	1·5
Natal	6·7	British Guiana	1·5
Victoria	6·6		

The Government Statistician of New South Wales, Mr. T. A. Coghlan, in his work, entitled "The Seven Colonies of Australasia," for 1894, says: "The relative burden of the public debt "for each colony is not to be determined by comparing the gross "amount with the population, unless the rate of interest payable "is also taken into consideration;" and in illustration of this view he remarks that a debt of 100*l.* in New South Wales is not more burdensome than one of 95*l.* in New Zealand, where the interest is higher. The following figures are taken from a table furnished by him at p. 363 of the work just mentioned:—

	Average Rate of Interest per Cent.	Interest *per Caput*, 31st December, 1893.		
		£	*s.*	*d.*
New South Wales	3·83	1	16	5
Victoria	3·94	1	11	9
Queensland	3·91	2	18	1
South Australia	4·09	2	13	2
Western Australia	4·10	1	16	1
Tasmania	4·06	2	–	2
New Zealand	4·03	2	7	5

Speaking of the loans of the Australasian colonies, Mr. Coghlan emarks that "the bulk of the expenditure may be placed to the "account of the construction of railways, water supply, sewerage, "and electric telegraphs," and he further observes that, "apart "from the consideration that [these works] will be ultimately "self-supporting, they have already materially assisted in de"veloping the country's resources, and have largely enhanced the "value of the public estates." This of course applies to all the colonies of the group as well as to New South Wales.

These comparisons in regard to loans are interesting in themselves, and may have some practical value. But in dealing with the question which country can offer the best security, many other things will have to be taken into consideration, such as its capabilities, its government, the extent of territory, how the money is proposed to be expended, whether it is likely to be reproductive within a reasonable time, and so on.

There is one other observation of a general nature which may fittingly find a place here. The expenditure from loans in the colonies as a rule differs from all other expenditure in this, that its effects are prospective and far-reaching, and not ephemeral, as is the case with the latter. A railroad, for example, may not return more than its working expenses, perhaps not even that, for a number of years, but if there is a reasonable prospect of its ultimately paying interest also, the gain in the way of cheapening transport, saving time, and encouraging settlement, and probably also of utilising resources which otherwise must lie dormant for an indefinite time, may be quite sufficient to justify the outlay, thereby temporarily increasing the present burdens by charges for work which will yield their full benefits only in the future. Thus the tramways in New South Wales, which, for some years, were run at a loss, are now yielding a profit of 5·51 per cent. on the cost of construction over and above working expenses.[3] The expenditure on public works, if judiciously incurred, also increases the taxpaying power of a community, and by opening up new lands, extends the area over which it is spread.

IV.—*Imports.*

Under this head the increases were as follows:—Western Australia, 266·91; India, 80·77; South Australia, 60·56; Straits Settlements, 52·58; Canada, 51·17; Cape of Good Hope, 50·50; Queensland, 41·28; New South Wales, 24·84; West India Islands, 21·17; Natal, 14·05; The Australasian group, 11·69. In Ceylon, Victoria, Tasmania, New Zealand, and British Guiana, there was a decrease at the end of the period, as compared with the first year, 1879. The imports (and the same remark will, of course, hold good in the case of exports) being measured by their money values, and prices generally having greatly fallen since that year, the increases would certainly have been much greater, and some, if not all, of the decreases would probably have been turned into increases, if prices had remained as they were in 1879. As to Victoria, it should be noted that the year 1893 was an unfavourable one for comparison, the imports in that year being less in value than in any other year of the period. Up to 1889 there was a progressive increase, but since then there has been a steady decrease. Western Australia stands at the head of the colonies in this item, as in nearly all the other items, in consequence of its mineral allurements. The increase of nearly 81 per cent. in India, as compared with that of the population—only 11½ per cent.—more than seven times, is very striking. South Australia also had a large increase—more than four times that of the population. The increase in Canada was between four and five times that of the population; in the West Indies nearly twice. In the other colonies, the rates of increase in the imports did not equal those of the population. With respect to Tasmania it should be observed that in every year except 1893 the imports had exceeded those of 1879.

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[3] *Seven Colonies of Australasia*, 1894, p. 102.

V.—*Exports.*

The increases in exports were—Queensland, 180·51; Natal, 129·14; Western Australia, 104·95; Cape of Good Hope, 97·91; South Australia, 81·33; New South Wales, 70·54; India, 59·74; Canada, 59·18: New Zealand, 56·45; Straits Settlements, 44·78; Australasia collectively, 44·67; West Indies, 11·54; Victoria, 6·86; Tasmania, 3·93. The exports from Victoria in 1879 were below the average. The highest value in the period was in 1883, from which time it has, with one exception (1891), uniformly declined. Comparing the average exports for the years 1879-85 with those for the years 1886-93, the decrease is about 15½ per cent. The increase in Queensland was very large, being nearly 200 per cent. The articles which chiefly contributed to it were gold silver and lead ores, pearl shells, cattle and meat, skins and tallow, sugar, and wool. Natal owed its increase principally to gold, sugar, and wool; Western Australia to gold, pearl fisheries, timber, and wool; the Cape of Good Hope to gold (over 5¼ millions), hair (Angora), diamonds, and wool; South Australia to bullion and specie, silver, lead, principally the produce of the celebrated Broken Hill Mines (which are in New South Wales territory), and wool. In the last-mentioned colony the chief increases occur on coals and coke, gold, hides and skins, meat, tallow, and wool. In India the increases are found under coffee, coir, cotton, raw and manufactured (more than doubled), dyes, grain (more than nine times), hides and skins

(2,800,000*l.*), jute, raw and manufactured (7 millions), lac (more than three times), rice (nearly 1½ millions), seeds (12 millions), sugar (nearly a million), tea (nearly 3¾ millions). On the other hand, there was a decrease of nearly 5 millions under opium. The chief increases in the export trade of Canada were under coal, timber, animals and their produce, bullion and coin other than gold, and leather. The increments in New Zealand are found under butter, flax, Kaurie gum, frozen meat (a trade which has sprung up entirely since 1881), potatoes, skins (rabbit), tallow, timber, and wool. For the Straits Settlements the different articles are not specified. The increases in the other colonies being small, it would only be tedious to enter into particulars.

With regard to Victoria one remark may be made. The policy of that colony for the last thirty years has been to encourage manufactures by the imposition of protective duties, and by other modes of State intervention, and one might naturally expect to see the result in the return of exports; but we look in vain for anything of the kind. With the exception of boots and shoes, which articles show a decrease in value from 128,000*l.* to 19,000*l.*, and soap, there are no "manufactures" in the list; all the rest being the produce of the soil, or things which are prepared for use without the labour of the artisan class. If we are to judge by the exports, the policy of protection in Victoria has been a signal failure. It is instructive to note that, while the protective colony had an increase of only about 7 per cent. on its exports in the fifteen years, New South Wales, which, until very lately, adhered to a policy of free trade, showed the respectable increase of 70½ per cent. Had the Australasian colonies followed the example of the United States, and permitted free intercourse with one another, whatever they might have done with regard to countries outside themselves, there can be no doubt that their commerce would have been vastly greater. As it is, they have been "cabined, cribbed, "confined;" they have been prevented, to a great degree, from mutually exchanging the commodities which they can produce to the greatest advantage; and thus industry has been checked, enterprise discouraged, employment curtailed, capital rendered less productive, progress impeded, and the burdens on the taxpayers augmented. Another very serious effect of this policy is, that it is the chief difficulty in the way of federation. If the perplexities which gather round the question of a uniform customs tariff could be removed, the rest would be easy; but in the face of interests which have been created by the protective system, the establishment of an Australasian *Zollverein*, if it ever does take place, will be a work of time, and can only be brought about by an overwhelming force of public opinion.

Wool is one of the chief productions of the Australasian colonies. The exports from all the British possessions in 1892 and 1879, as set forth in the "Statistical Abstract," is shown in one of the Tables (VII). The total in 1892-93 amounted to 775,825,000 lbs., and in 1879 to 379,437,000 lbs. The quantity supplied by the Australasian colonies was in 1893, 85, and in 1879, 78½ per cent. of the whole. The total quantity derived from the foreign countries included in the "Abstract" was in 1892, 264,883,000 lbs.; in 1882, 196,735,000 lbs. In the former year the Australasian colonies furnished more than double the output from foreign countries. The increase in the foreign export between 1892 and 1882 was at the rate of 34·64 per cent.; in that of the British possessions between 1893 and 1879, 104·71 per cent., or more than three times the foreign rate in the ten years. The Australasian output increased in the period 1879-93 by 121·42 per cent.; that of the Cape of Good Hope by 66·28 per cent. The export of wool from foreign countries was generally less in 1892 than in 1882, or very little more, the only substantial increases being in Holland, France, and Spain. The nature of the imports and exports of the Argentine Republic and of the other South American States is not specified in the "Abstract."

In the "Abstract" for the colonial possessions is contained a table showing the value of the exports of gold and silver bullion and specie (so far as can be stated) for the period 1879-93. From this we find that the value of the precious metals derived from the several sources in 1879 and 1893 respectively, so far as it can be measured by the exports, was as follows:—

	1879.	1893.
	£	£
India	2,035,148	4,100,192
The Australasian colonies	2,711,468	12,031,051
Natal	1,100	334,975
Cape of Good Hope	291,245	5,459,220
Canada	146,788	849,390
Trinidad	494,325	379,653
British Guiana	300	512,482
Other British possessions	2,694,484	3,275,951
Total from British possessions	8,374,858	26,942,914

The increase between the two years is remarkable; and it will be observed that the Australasian colonies in 1893 furnished nearly one-half of the total amount. The value of gold and silver bullion and specie imported into the United Kingdom in the same two years is thus stated:—

		£	£
1879	Gold	13,368,675	
	Silver	10,786,863	
			24,155,538
1893	Gold	24,834,727	
	Silver	11,913,395	
			36,748,122

Thus we see that, while the import of gold has nearly doubled, that of silver has remained almost stationary, notwithstanding the gradual cheapening of the latter. These figures may throw light on some economical and financial questions on which there is so much difference of opinion.

VI.—*Bank Deposits.*

The banking returns do not comprehend all the colonies. Of those for which particulars are given, Western Australia shows the largest increase in the deposits, namely, 137·68 per cent. Queensland had an increase of 75·68 per cent.; New Zealand, of 68·44; Natal, of 60·37; Canada, of 59·16; South Australia, of 54·46; Australasia, of 41·82; New South Wales, of 33·39; Victoria, of 33·37. Tasmania had a very small increase, 1·02; while the Cape of Good Hope had an actual decrease. The period for Canada was from 1884 to 1894 inclusive; that for the other colonies, from 1883 to 1893.

To make this part of the subject perfect, we ought to have the deposits in savings banks, but unfortunately the statistics of savings banks are not included in the "Abstracts" of the Board of Trade.

VII.—*Railways and Telegraphs.*

I couple these together, because they both serve the purpose of facilitating inter-communication. The conditions of social life in these days are such that any country which does not provide itself with these necessaries of modern civilisation, cannot hope to compete successfully with other countries which have placed themselves in a more favourable position in this respect. The construction of railways, or tramways and telegraphs, is therefore an important element to be taken into consideration in forming a judgment as to the progress or otherwise of any country.

Taking the railways first, we observe that Western Australia occupies the foremost place, the rate of increase from 1879 to 1893 being 804·17 per cent.; then follows Natal, with 426·33 per cent.; next Queensland, with 372·96; New South Wales, with 212·58; the Cape of Good Hope, with 206·66; South Australia, with

197·67; Tasmania, with 180·24; Victoria, with 163·02; Canada, with 135·31; British India, with 116·85; New Zealand, with 78·60; and lastly, Ceylon, with 57·38. The increase for Australasia, as a whole, was 194·27 per cent.

The increases on the telegraph lines open in the same period were, with a few exceptions, considerably less than those on the railways. They were as follows: Straits Settlements, 886·67; British Guiana, 164·14; Western Australia, 147·01; British India, 128·31; Victoria, 125·30; Cape of Good Hope, 119·94; Tasmania, 110·76; Queensland, 70·40; Natal, 68·21; New South Wales, 60·93; New Zealand, 52·93; and South Australia, 26·24.

Before leaving this division of the subject, I should wish to make one observation which seems to me to be of great importance in considering the financial arrangements of the colonies, and more especially in connection with their loans. It is an opinion very generally held, that Government railways should not be constructed unless they are expected to return the whole or a major part of the interest on construction in addition to their working expenses. But no such condition is required in the case of ordinary roads, and there does not appear to be any reason whatever why any such distinction should be made, If it is made, the preference should certainly be given to the railroad over the common road, the former being superior in every respect. It is more convenient and pleasant for passengers; it saves time, which means money; it provides a cheaper mode of transit, especially if the saving of time is taken into account; it improves the value of property within the sphere of its operations; it relieves the district of road rates along its route; and it enables many things to be turned to account which, without it, would be unutilised and therefore unprofitable; and finally it may add directly to the revenue, which a common road never does. From Mr. Coghlan's "Seven Colonies," it appears that for all Australasia the Government railways in 1892-93, after paying for cost of working, left a charge of only 0·99, or say 1 per cent. for interest on cost of construction. The same advantages could not have been secured by ordinary roads; and, if tolls had been established, the burden on those who used the roads would have been much greater.

Taking all this into consideration, if no direct returns are expected from roads commonly so called, one cannot see why they should be demanded in the case of the iron road, the benefits derivable from which are so much greater. The real question then to be asked when a railroad is projected would seem to be, not: Will it pay working expenses and interest? but: Are the advantages, direct and indirect, likely to result from it sufficiently great to justify the expenditure?

We now turn to the

Statistics of Foreign Countries.

I have selected for comparison the following countries, omitting the smaller ones: Russia in Europe, the German Empire, France, Belgium, Italy, Austria-Hungary, Spain, the United States, Holland, Egypt, Japan, China. Very few particulars are given for the last two, but they are included on account of the prominent position taken by them at the present time on account of the late war.

There is some difficulty in comparing the figures for the United Kingdom and its offshoots with those for foreign countries, in consequence of the want of regularity in the periods in the latter case; and if the rates had been reduced by calculation to one standard, the result, being based on the assumption that the rate of increase or decrease was uniform throughout the period, would not have been satisfactory. A rough approximation may be obtained by making an allowance for the difference in the number of years.

With this preliminary caution we may proceed to consider the tables.

I.—*Population.*

In fifteen years Russia in Europe increased its population by 24·97 per cent.; the German Empire by 15·68; France by only 3·89 per cent. Italy in eleven years had an increase of only 7·29 per cent.; Belgium in fourteen years an increase of 13·74. In ten years the United States gained in population 24·85 per cent.; Holland, 12·41; Egypt, 24·33; Spain, 6·76; Austria-Hungary, 9·17 per cent. The increase in Japan in twenty years was 24·05 per cent.

II.—*Revenue.*

Russia in five years had an increase to its revenue of 20·78 per cent.; the German Empire, in a like period, of 26·04; France, in four years, of 4·89; Belgium, in six years, of 11·40; the United States, in thirteen years, of 34·39; Italy and Austria-Hungary having a decrease.

The increases in customs revenue were: Russia (five years), 21·10 per cent.; German Empire (five years), 20·48; France (five years), 2·78; Austria-Hungary (seven years), 7·20; the United States (thirteen years), 8·56. In Italy there was a decrease.

III.—*Public Debt.*

The returns under this head are imperfect; but of the countries whose debts are stated, Germany had by far the largest increase. The figures stand thus: Germany (ten years), 270·06 per cent.; Russia (five years), 7·84; Belgium (six years), 12·78; Italy (nine years), 8·04; Austria-Hungary (ten years), 35·36. France and the United States were in the happy position of having lessened the burden of their indebtedness—France (in ten years) from 93 to 38 millions sterling, and the United States (in thirteen years), from 405 to 175 millions, nearly.

IV.—*Imports and Exports.*

The accounts of imports and exports of foreign countries fortunately are all for the same period, so that we can compare them at a glance, without the trouble of making any calculation or allowance for dates. The latest volume of statistics which has reached me gives the figures for the ten years included between 1882 and 1892.

Japan had the large increase of 74·76 per cent. in its imports; Egypt comes next with 44·69 per cent.; then China, with 32·60; Holland, with 29·34; the German Empire, with 29·03; the United States, with 14·18; and Spain, with 9·64. In Russia in Europe, France, Belgium, Italy, and Austria-Hungary the value of imports in 1892 was less than 1882. The decline does not, of course, necessarily imply a contraction in the volume of the trade; it may have been, and to some extent certainly was, caused by the fall in prices. The same remark will apply to the exports.

The countries which showed an increase in the value of their exports were these:—Japan, 88·49 per cent.; Holland, 51·15; the United States, 31·98; Egypt, 23·10; China, 16·20; Belgium, 3·28; Spain, 0·16. In Russia, Germany, France, Italy, and Austria-Hungary there were decreases.

V.—*Shipping.*

The table relating to shipping includes vessels both outwards and inwards, and is for the one period between 1882 and 1892.

Japan has the largest increase, 123·62 per cent.; China coming next, with 73·79 per cent.; then the German Empire, with 64·32; Holland, with 47·89; Belgium, with 47·00; Austria, with 46·84; Italy, with 35·74; Spain, with 24·95; the United States, with 23·51; France, with 7·64; while Russia had a decrease. It is surprising to find that the increase for the United Kingdom was no more than 21·37 per cent., the smallest of any except that of France. If the returns for the different countries are all compiled on the same principles, the fact must furnish food for very grave consideration.

VI.—*Railways and Telegraphs.*

In railway extension Russia takes the premier place among the nations included in our tables, the others following in their order of increase:—Russia, 17·80 per cent.; Italy, 15·11; Holland, 14·64; Austria-Hungary, 13·46; Spain, 12·55; the United States, 11·36; France, 8·57; Germany, 8·15; Egypt, 5·94; Belgium, 1·74.

In the progress of telegraphic construction there was a great gap between Russia and the other foreign powers as to which we have any information. The different percentages of increase were as follows:—Russia, 154·09; the United States, 121·35; France, 79·04; Italy, 49·93; Spain, 46·91; Holland, 43·11; Austria-Hungary, 34·08; Belgium, 33·79; Germany, 12·16.

VII.—*Commercial Relations of the United Kingdom with other Countries.*

Our survey would not be complete without a glance at the relations of the United Kingdom with its own possessions and with foreign countries.

The commerce of the United Kingdom in the years 1893 and 1879 (in both of which it was below the average) is given as follows:—

	Imports.	Exports.	Total Commerce.
	£	£	£
1893	404,688,178	277,138,270	681,826,448
'79	362,991,875	248,783,364	611,775,239
Increase	41,696,303	28,354,906	70,051,209

On the imports the increase was at the rate of 11·49 per cent.; on the exports, 11·40; and on the aggregate of both, 11·45 per cent. Taking into consideration the fall in the prices of many of the principal articles, the increase in the actual bulk of the trade must have been much larger than that indicated by the money values; and the same will apply to all the countries with which we have been dealing.

Of the whole commerce of the mother country the following were the proportions borne by its dependencies:—

		Per cnt.			Per cnt.
Imports	1879	21·75	Exports	1879	26·73
	'93	22·68		'93	28·35

It thus appears that the tendency on the part of the Colonial possessions was to do an increasing business with the United Kingdom.

The three largest appanages of the British Empire are India, Australasia, and Canada. The proportion per cent. of their seaborne trade with the old country is shown below:—

		India.	Australasia.	Canada.
Imports into United Kingdom	1893	23·59	13·16	6·94
	'79	14·55	13·14	5·12
Increase		9·04	0·02	1·82
Exports from United Kingdom	1893	30·91	33·72	9·26
	'79	27·83	16·59	6·48
Increase		12·08	17·13	2·78

The increase in the exports to Australasia and India, especially the former, as compared with the imports, is very noticeable.

Turning now to the British trade with the principal foreign countries in the same period as before, we find the following large increases as regards the Argentine Republic, namely, on imports 484·19 per cent.; on exports, 164·76 per cent. Next follows Roumania with 207·21 per cent. on imports, and 33·36 per cent. on exports. Chili has also a very large increase (149·19) on exports, but only 1·58 on imports. Imports from Japan increased by 131·93 per cent.; exports by 24·52 per cent. Exports to Egypt showed an increase of 55·53 per cent.; imports were about ½ per cent., lower. In imports to Southern Russia there was a large increase of 74·99 per cent. Sweden and Norway showed increases —on imports, 42·82 per cent.; on exports, 55·89 per cent. Denmark and Iceland also had increases—on imports, 91·17 per cent.; on exports, 11·03 per cent. There was a good increase in the export trade to Holland (49·67 per cent.) and Austria (47·28) per cent.; also in the traffic with the Dutch possessions in the Indian seas, namely, on imports, 23·71 per cent.; on exports, 28·21 per cent. The imports from Belgium were greater by 57·08 per cent.; the exports by 9·51 per cent. Relations with Spain and the Philippine Islands were satisfactory; also, as regards imports, with Turkey. The trade with the United States showed an increase of 39·99 per cent. on the exports, but a small decrease on the imports. The case of Mexico and Brazil was very similar. As regards the other smaller South American States, there was a general increase in the exports, with a decrease in the imports. The following countries have decreases in both imports and exports: Russia, Northern; West Indies (Spanish); Italy; Greece; Central America; Peru; China; and the Western Coast of Africa.

The imports from Germany increased by only 5·64 per cent.;

the exports diminished by 6·33 per cent. France supplied more goods to the United Kingdom by 13·52 per cent., but took less in return by 25·46 per cent. Portugal shows a falling off of 21·39 per cent. in imports, and 10·22 per cent. in exports.

A general survey of all the facts before us suggests some considerations, with which I conclude.

In the older countries we find less movement and progress than in the younger offshoots. This is only what might be expected, for everything in which is life or motion, whether plant, animal, machine, planet, or sun, must have its infancy, its youth, its maturity, its decline, and its decease or dissolution. In the early stages the powers are vigorous, creative, progressive; in middle life they are nearly stationary; and as old age draws on, they diminish more and more, until at last they cease entirely. The European countries are in their maturity, not, we hope, in their decline. The British possessions are, absolutely or relatively, young, and therefore naturally show a higher rate of increase in most directions. In population the difference is not so great as might have been expected. France in this respect stands at the bottom of all the countries named in the tables, and Spain and Italy have both very low rates; but the other European countries do not compare unfavourably with some of the colonies —especially Canada, the West Indies, Guiana, and South Australia. In revenue, general and customs, the superiority is very largely in favour of the colonies. The latter are also far ahead in the increase of their indebtedness; Germany, however, coming very near to the two colonies having the highest rate. As to shipping, the increases are very much larger in the colonies than in the old countries; and I have been greatly surprised to find that the ratio of increase, not only on shipping, but also on population, revenue, customs, imports, and exports, was lower in the United Kingdom than in some foreign countries; for example, while the tonnage of shipping employed in carrying on the British trade increased in the ten years between 1882 and 1892 by 23·37 per cent., the corresponding increase in the shipping of the United States was 23·51 per cent.

As regards imports and exports of foreign countries in the same period, there were increases on both in Japan, Egypt, Holland, China, the United States, and Spain; the rates in all these countries, except the last, being higher (and in most cases very much higher) than in the United Kingdom. Germany had an increase in imports, but a decrease in exports. Russia in Europe, France, Italy, and Austria-Hungary had decreases in both imports and exports. Belgium had a decrease in imports, but an increase on exports.

Looking at the figures for the old countries (so far as they have been presented to us in the "Statistical Abstracts") and those for the new, in both hemispheres, we cannot fail to see that the latter are progressing much faster than the former. The immense territories still unoccupied in India, British North America, and Australasia, and their rich and varied resources, must make them indeed what Sir Charles Dilke happily called them, a "Greater "Britain;" and the utilisation of the waters of Niagara as a motive power for manufacturing purposes, the boldest and most stupendous achievement of our times, will probably have a very strong tendency to draw industry and commerce, and therewith capital and population, from the old world to the new. So far, however, as the southern dependencies are concerned, there does not seem to be any reason why they should not follow the example of Canada and establish manufactures by means of water power and electricity, wherever a sufficient force of the former is found, either to work the machinery directly or to generate electricity for the purpose. Such a force is found in the central plateau of Tasmania, where numerous lakes, especially the Great Lake, 90 miles round and of corresponding depth, lie some 3,000 feet above the sea. The electricity might be generated in the vicinity of the lake and conveyed to a distance to any spot that might be selected as best adapted for the purpose.

The relation of the mother country to its possessions will doubtless be similar to that which in old times existed between Greece proper and Magna Græcia; the parent will live again an ampler life in its scattered descendants: may it be long before they suffer the pain of seeing it in its decrepitude!

At the present time we see indications that there is an immense amount of money, especially in the old country, available for investment, and of this a large proportion could be profitably employed in the colonies, in mining for gold, silver, copper, tin, coal, in the manufacture of iron from ore of which there are vast quantities in Tasmania within easy reach of water carriage. The consumption of printing and wrapping paper in the Australasian colonies is very large, and these articles might probably be profitably made from ligneous matter, as freight, &c., would be saved. So with glass ware and pottery. These are some of the directions in which British capital might presumably be employed with advantage, if operations were planned and carried on with the skill and energy which are always necessary for the success of any serious undertaking.

The great obstacle to the industrial employment of capital seems to be the miserable want of confidence between employer and employed, and the continual recurrence of strikes, which make it impossible to count upon a steady supply of labour, and consequently confine the spirit of enterprise within the narrowest possible limits. There can hardly be a doubt that this is the cause of a very large proportion of the depression which has so generally prevailed. Production has been discouraged, great numbers of men, instead of being producers, have been living upon the produce and the earnings of others, trade has languished, and in fact the whole economical system has been suffering from exhaustion, or, rather, from that condition which in the animal organisation we call *anæmia*, with the necessary consequence that every function is diseased, and that healthy, vigorous life is impossible.

Gold mining offers special inducements for the employment of surplus capital. This industry has been less disturbed by strikes than most others; there is no limit to the profitable production; the seller can always count upon getting the standard price at the mints; the risks are not greater than in many other undertakings, while the profits may be much larger; and the supply of material is abundant. There are throughout the Australasian colonies many thousands of gold-bearing lodes which could be profitably worked, if only the requisite capital, skill, and energy were expended upon them. But operations would have to be conducted on an adequate scale, and in an economical manner, not for the benefit of a few favoured "figure heads" and hangers-on, but for that of the *bonâ fide* proprietors or shareholders. There are brilliant examples of what capital, directed by skill and judgment, can effect; and there is no reason whatever why similar results should not follow in the case of numerous other valuable lodes, especially of auriferous matter. Powerful companies or syndicates, under the advice of really competent mining experts, might acquire mining properties, or work those of other proprietors for their common advantage.

The chlorination and cyanide processes have effected a revolution in mining. They have enabled mines to be worked at a profit which, under less effective treatment, were too poor to pay; and there is an illimitable quantity of such ore in these colonies.

If their magnificent resources were turned to the best account, the result could not but be highly favourable both to them and to the mother country.

TABLE I.—*Population of Chief British Possessions according to the Censuses of* 1891 *and* 1881.

Possessions.	Years.	Population.	Increase.
India, British	1891 '81	221,172,952 198,790,853	22,382,099
Straits Settlements	1891 '81	512,342 423,384	88,958
Ceylon	1891 '81	3,007,789 2,763,984	243,805
Hong Kong	1891 '81	221,441 160,402	61,039
Australasia	1891 '81	3,850,361 2,742,550	1,107,811*
New South Wales	1891 '81	1,165,300 751,468	413,832
Victoria	1891 '81	1,140,405 862,346	278,059
South Australia	1891 '81	320,431 279,865	40,566
Western Australia	1891 '81	49,782 29,708	20,074†
Queensland	1891 '81	393,718 213,525	180,193
Tasmania	1891 '81	146,667 115,705	30,962
New Zealand	1891 '81	634,058 489,933	144,125
Natal	1891 '81	543,913 402,687	141,226
Cape of Good Hope	1891 '81	1,527,224 720,984	806,240
Canada and Newfoundland	1891 '81	5,031,173 4,504,319	526,854
West India Islands	1891 '81	1,357,134 1,216,363	140,771
British Guiana	1891 '81	278,328 252,186	26,142

* In 1893, 4,068,302.

† In 1893, 65,064.

TABLE II.—*Chief Statistics of the Principal British Possessions for the Years* 1893 *and* 1879, *with the Increases on the former Year.*

Possessions.	Years.	000's omitted.	Revenue, Customs.	000's omitted.					Railways Open, including Private.	Telegraph Lines Open.
		Revenue, Public.		Public Debt.	Shipping Entered and Cleared.	Imports.	Exports.	Bank Deposits.		
		£	£	£	Tons.	£	£	£	Miles.	Miles.
India, British	1893	90,172,	4,132,002	222,756,	7,692,	95,487,	110,615,	....	18,400	41,030
	'79	68,433,	4,613,575	160,362,	5,703,	52,821,	69,247,	....	4,485	17,971
		21,739,	*−481,573*	62,394,	1,989,	42,666,	41,368,	....	9,915	23,059
Straits Settlements	1893	468,	....	....	9,573,	95,487,	110,615,	....	....	1,184
	'79	338,	....	94,	4,174,	52,821,	59,247,	....	....	120
		130,	....	− *94*,	5,399,	42,666,	41,368,	....	....	1,064
Ceylon	1893	1,034,	254,331	2,718,	6,152,	4,144,	3,952,	....	192	959
	'79	1,229,	246,256	671,	2,610,	4,470,	4,410,	....	122	....
		− *195*,	8,075	2,047,	3,542,	− *326*,	− *458*,	....	70	959
Hong Kong	1893	433,	....	400,	10,536,	....	....	....	....	....
	'79	201,	....	....	4,964,	....	....	....	....	....
		232,	....	400,	5,572,	....	....	....	....	....
Australasia	1893	28,225,	7,851,181	207,691,	15,983,	53,258,	65,754,	100,768,	12,786*	....
	'79	15,937,	5,104,004	78,011,	8,172,	47,684,	41,275,	71,072,†	4,345	....
		12,288,	2,747,177	129,680,	7,811,	5,574,	24,479,	29,716,	8,441	....
New South Wales	1893	9,500,	2,114,943	59,329,	5,193,	18,107,	22,921,	31,295,	2,435	12,097
	'79	4,475,	1,089,308	14,937,	2,541,	14,504,	13,132,	23,461,	779	7,517
		5,025,	1,025,635	44,392,	2,562,	3,603,	9,789,	7,834,	1,656	4,580

† For 1883.

Possessions.	Years.	000's omitted.		000's omitted.					Railways Open, including Private.	Telegraph Lines Open.
		Revenue, Public.	Revenue, Customs.	Public Debt.	Shipping Entered and Cleared.	Imports.	Exports.	Bank Deposits.		
Australasia—		£	£	£	Tons.	£	£	£	Miles.	Miles.
Victoria	1893	6,959,	1,866,397	45,970,	4,030,	13,284,	13,308,	32,185,	2,959	7,105
	'79	4,621,	1,436,343	20,048,	1,940,	15,035,	12,454,*	24,059,	1,125	3,155
		2,338,	430,054	25,922,	2,090,	−*1,751*,	854,	8,126,	1,834	3,950
South Australia	1893	2,737,	542,314	22,359,	2,550,	8,051,	8,636,	7,181,	1,664†	5,546
	'79	1,672,	513,431	6,606,	933,	5,014,	4,763,	4,649,	559†	4,393
		1,065,	28,883	15,753,	1,617,	3,037,	3,873,	2,532,	1,105	1,153
Western Australia	1893	571,	259,495	2,873,	1,071,	1,494,	918,	1,293,	651	3,578
	'79	196,	90,524	861,	170,	407,	448,	544,	72	1,569
		375,	168,971	2,512,	901,	1,087,	470,	749,	579	3,009
Queensland	1893	3,343,	1,103,680	30,639,	946,	4,353,	9,633,	10,827,	2,379	10,004
	'79	1,462,	511,132	10,313,	1,256,	3,081,	3,434,	6,163,	503	5,871
		1,882,	592,548	20,326,	− *310*,	1,272,	6,199,	4,664,	1,876	4,133
Tasmania	1893	707,	285,456	7,646,	934,	1,058,	1,352,	3,553,	468	1,821
	'79	375,	199,688	1,787,	382,	1,267,	1,301,	3,517,	167	864
		332,	85,768	5,859,	552,	− *209*,	51,	36,	301	957
New Zealand	1893	4,408,	1,678,896	38,874,	1,258,	6,911,	8,985,	14,434,	2,036	5,513
	'79	3,135,	1,263,578	23,958,	950,	8,374,	5,743,	8,569,	1,140	3,605
		1,273,	415,318	14,916,	308,	−*1,463*,	3,242,	5,865,	896	1,908

* Considerably below the average.

† Not including northern territory.

TABLE II—*Contd. Chief Statistics of the Principal British Possessions for the Years* 1893 *and* 1879, *with the Increases on the former Year.*

Possessions.	Years.	000's omitted.	Revenue, Customs.	000's omitted.					Railways Open, including Private.	Telegraph Lines Open.
		Revenue, Public.		Public Debt.	Shipping Entered and Cleared.	Imports.	Exports.	Bank Deposits.		
		£	£	£	Tons.	£	£	£	Miles.	Miles.
Natal	1893	1,070,	216,041	7,170,	1,193,	2,482,	1,337,	1,926,	300	688
	'79	473,	228,558	1,632,	412,	2,176,	584,	1,201,	57	409
		597,	− *12,517*	5,538,	781,	306,	753,	725,	243	279
Cape of Good Hope	1893	4,971,	1,408,176	26,799,	3,142,	11,540,	13,156,	6,607,	2,441	5,967
	'79	2,084,	910,830	10,017,	1,582,	7,668,	6,647,	7,758,	796	2,713
		2,887,	497,346	16,782,	1,560,	3,872,	6,509,	− *1,151*,	1,645	3,254
Canada and Newfoundland	1893	8,208,	4,644,529	63,375,	11,461,	28,100,	25,671,	36,417,*	15,260	32,921
	'79	4,950,	2,879,528	37,695,	6,706,	18,589,	16,127,	22,880,*	6,485	Unknown
		3,258,	1,765,001	25,680,	4,755,	9,511,	9,544,	13,537,	8,775	....
West India Islands	1893	1,883,	835,637	2,807,	7,922,	6,930,	6,934,	....	....	....
	'79	1,366,	665,715	1,171,	3,174,	5,715,	6,261,	....	....	....
		517,	169,922	1,636,	4,748,	1,215,	723,	....	....	....
British Guiana	1893	603,	310,614	881,	648,	1,921,	2,359,	....	21	803
	'79	896,	220,626	304,	536,	2,065,	2,715,	....	21	304
		207,	89,988	577,	112,	− *144*,	− *356*,	....	....	499

* 1884 to 1894. Several provinces different dates. Newfoundland not included.

TABLE III.—BRITISH POSSESSIONS. *Increases per Cent., Calculated from the foregoing Tables.*

Possessions.	Population.	Revenue, General.	Revenue, Customs.	Public Debt.	Shipping.	Imports.	Exports.	Bank Deposits.	Railways Open.	Telegraph Lines Open.
India, British	11·26	31·77	– *10·44*	39·00	34·88	80·77	59·74	....	116·85	128·31
Straits Settlements	21·01	38·61	....	....	129·33	52·58	44·78	....	....	886·67
Ceylon	8·82	– *15·85*	3·27	304·84	135·75	– *7·29*	– *10·38*	....	57·38	....
Hong Kong	38·05	115·55	....	....[a]	112·23	....	....	....	....	....
Australasia	40·39	77·09	53·43	166·24	95·59	11·69	44·67	41·82	194·27	....
New South Wales	55·07	112·26	94·11	297·19	104·40	24·84	70·54	33·39	212·58	60·93
Victoria	32·24	50·58	29·94	129·30	107·69	– *11·64*[b]	6·86[c]	33·37	163·02	125·30
South Australia	14·49	63·68	5·62	238·48	173·41	60·56	81·33	54·46	197·67	26·24
Western Australia	67·57	190·69	186·67	69·59	530·11	266·91	104·95	137·68	804·17	147·01
Queensland	84·39	128·69	115·93	197·09	– *24·68*[d]	41·28	180·51	75·68	372·96	70·40
Tasmania	26·76	88·24	42·95	327·89	148·88	– *16·50*[e]	3·93	1·02	180·24	110·76
New Zealand	29·42	40·61	32·87	62·26	32·40	– *17·47*	56·45	68·44	78·60	52·93
Natal	35·07	125·92	– *5·47*	400·72	189·43	14·05	129·14	60·37	426·33	68·21
Cape of Good Hope	66·35[f]	138·56	54·63	167·52	98·67	50·50	97·91	– *14·83*	206·66	119·94
Canada	11·70	65·83	61·30	68·12	70·91	51·17	59·18	59·16[g]	135·31	....
West India Islands	11·60	37·91	20·27	139·65	149·62	21·17	11·54	....	....	....
British Guiana	11·26	52·31	40·79	189·28	20·92	– *6·97*	– *13·11*	....	....	164·14

[a] No debt in 1879.

[b] Imports in 1893 lowest in the period.

[c] Exports in 1879 below average.

[d] Since 1882 only direct trade included.

[e] Decrease only in 1893.

[f] Not including added territory (population 327,984).

[g] Not including N.W. Territory and Prince Edward Island.

TABLE IV.—FOREIGN COUNTRIES. *Chief Statistics of the Principal Foreign Countries.*

[000's omitted, except for railways and telegraphs.]

Countries.	Population.	Revenue.	Customs.	Public Debt.	Shipping, Inwards and Outwards.	Imports.	Exports.	Railways Open.	Telegraphs Open.
		£	£	£	Tons. 1892-82.	£ 1892-82.	£ 1892-82.	Miles.	Miles.
United Kingdom	'91 38,105, '81 35,241,	'93–94 91,133, '84–85 87,988,	'93–94 19,707, '84–85 20,321,	'93–94 666,154, '84–85 740,331,	75,867, 61,491,	423,794, 413,020,	291,640, 306,661,	'93 20,646 '84 18,864	'94 35,286 '84 27,604
	2,864,	3,145,	– *614*,	– *74,177*,	14,376,	10,774,	– *15,021*,	1,782	7,682
Russia in Europe	'85 91,862, '70 73,504,	'92 118,025, '87 97,715,	'92 13,055, '87 10,780,	'92 539,346, '86 500,111,	9,320, 10,250,	34,704, 51,836,	39,964, 59,072,	'87 16,774 '82 14,316	'87 74,276 '70 29,234
	18,358,	20,310,	2,275,	39,235,	– *930*,	– *17,132*,	– *19,108*,	2,458	45,042
German Empire	'90 49,428, '75 42,727,	'93–94 62,750, '88–89 49,784,	'93–94 17,056, '88–89 14,157,	'92 90,405, '82 24,430,	29,624, 19,595,	201,895, 156,475,	147,745, 159,525,	'91-92 26,249 '87-88 24,270	'92 63,415 '89 56,538
	6,701,	12,966,	2,899,	65,975,	10,029,	45,420,	– *11,780*,	1,979	6,877
France	'91 38,343, '76 36,906,	'90 153,301, '86 146,155,	'91 15,033, '86 14,627,	'93 38,302, '82 93,473,	28,120, 26,124,	167,520, 192,872,	138,428, 142,976,	'92 21,661 '88 19,951	'90 73,550 '80 41,079
	1,437,	7,146,	406,	– *55,171*,	1,996,	– *25,352*,	– *4,548*,	1,710	32,471
Belgium	'90 6,069, '76 5,336,	'92 16,540, '86 14,852,	... ...	'93 87,327, '87 77,434,	11,584, 7,880,	61,428, 64,302,	54,778, 53,037,	'92 2,810 '88 2,762	'92 4,617 '80 3,451
	733,	1,688,	...	9,893,	3,704,	– *2,874*,	1,741,	48	1,166
Italy	'92 30,536, '81 28,460,	'93 69,368, '83 77,278,	'93 9,641, '88 9,791,	'92–93 491,571, '83–84 454,979,	13,944, 10,309,	46,936, 49,081,	38,327, 46,071,	'90 7,983 '86 6,965	'91-92 23,665 '80 16,217
	2,076,	– *7,910*,	– *150*,	36,592,	3,635,	– *2,145*,	– *7,744*,	1,018	7,448
Austria-Hungary	'90 41,359, '80 37,883,	'94 87,987, '87 88,987,	'94 3,617, '87 3,374,	'93 507,721, '88 375,086,	17,264, 11,757,	61,814, 64,515,	60,827, 65,158,	'91 17,076 '87 15,050	'91 41,322 '80 30,818
	3,476,	– *1,000*,	243,	132,635,	5,507,	– *2,701*,	– *4,331*,	2,026	10,504

TABLE IV—*Contd.* FOREIGN COUNTRIES. *Chief Statistics of the Principal Foreign Countries.*

[000's omitted, except for railways and telegraphs.]

Countries.	Population.	Revenue.	Customs.	Public Debt.	Shipping, Inwards and Outwards.	Imports.	Exports.	Railways Open.	Telegraphs Open.
		£	£	£	Tons. 1892-82.	£ 1892-82.	£ 1892-82.	Miles.	Miles.
Spain	'87 17,545, '77 16,432,	... ...	... ...	... ...	22,892, 18,321,	34,021, 31,030,	30,380, 30,331,	'89 6,070 '84 5,393	'88 14,710 '80 10,013
	1,113,	...	...	...	4,571,	2,991,	49,	677	4,697
United States	'90 62,622, '80 50,156,	'93 152,682, '80 113,612,	'93 42,366, '80 39,025,	'93 174,785, '80 404,612,	36,439, 29,503,	172,375, 150,967,	211,611, 152,758,	'92 171,805 '88 154,276	'92 189,576 '80 85,645
	12,466,	39,070,	3,341,	– 229,827,	6,936,	21,408,	48,853,	17,529	103,931
Holland	'89 4,511, '79 4,018,	... ...	... ...	... ...	... ...	105,574, 81,624,	94,142, 62,282,	'89 1,715 '85 1,496	11,846 8,010
	493,	...	...	...	...	23,950,	31,860,	219	3,836
Egypt	'82 6,806, '72 5,210,	... ...	... ...	... ...	... ...	9,470, 6,545,	13,897, 11,289,	999 943	... ...
	1,596,	...	...	...	...	2,925,	2,608,	56	...
Japan	'92 41,090, '72 33,111,	... ...	... ...	... ...	... ...	10,662, 6,101,	13,253, 7,031,	... ...	3,579 1,600
	7,979,	...	...	...	...	4,561,	6,222,	...	1,979
China	... ...	... ...	... ...	... ...	... ...	29,413, 22,181,	22,333, 19,219,	... ...	6,889 3,964
	...	...	...	...	...	7,232,	3,114,	...	2,925

TABLE V.—FOREIGN COUNTRIES. *Increase or Decrease per Cent. calculated from the Figures in the foregoing Table.*

Countries.	Population.	Revenue.	Customs.	Public Debt.	Shipping.	Imports.	Exports.	Railways.	Telegraphs.
United Kingdom	8·12	3·57	*−2·95*	*−10·00*	23·41	2·66	*− 4·88*	9·45	27·8
Russia in Europe	24·97	20·78	21·10	7·84	*−9·07*	*−33·05*	*−32·35*	17·80	154·0
German Empire ..	15·68	26·04	20·48	270·06	64·32	29·03	*−11·14*	8·15	12·1
France	3·89	4·89	2·78	*−59·02*	7·64	*−13·16*	*− 3·18*	8·57	79·0
Belgium	13·74	11·40	....	12·78	47·00	*− 4·47*	3·28	1·74	33·7
Italy	7·29	*−10·23*	*−1·53*	8·04	35·74	*− 4·37*	*−16·81*	15·11	49·9
Austria-Hungary	9·17	*− 1·12*	7·20	35·36	46·84	*− 4·95*	*− 7·69*	13·46	34·0
Spain	6·76	....	....	....	24·95	9·64	0·16	12·55	46·9
United States	24·85	34·39	8·56	*−56·79*	23·51	14·18	31·98	11·36	121·3
Holland	12·41	....	....	....	47·89	29·34	51·15	14·64	43·1
Egypt	24·33	....	....	....	...	44·69	23·10	5·94	—
Japan	24·05	....	....	....	123·62	74·76	88·49	....	—
China	....	....	....	....	73·79	32·60	16·20	....	—

TABLE VI.—*Imports and Exports, United Kingdom*, 1879-93.

[000's omitted.]

Countries.	Imports.		Exports.		Increase or Decrease (−).			
	1879.	1893.	1879.	1893.	Imports.	Exports.	Imports.	Exports
	£	£	£	£	£	£	Per cnt.	Per cnt
Russia, Northern	11,063,	10,333,	9,205,	8,964,	− 730,	− 241,	− 6·60	− 2·
„ Southern	4,813,	8,422,	1,402,	1,400.	3,609,	− 2,	74·99	− 0·
Sweden and Norway	8,393,	11,987,	3,929,	6,125,	3,594,	2,196,	42·82	55
Denmark and Iceland....	4,675,	8,937,	1,985,	2,971,	4,262,	986,	91·17	11
Germany	21,605,	26,365,	29,624,	27,954,	4,760,	− 1,670,	5·64	− 6
Holland	21,959,	28,851,	15,453,	15,746,	6,892,	293,	1·90	49
„ Indian possessions	1,784,	1,361,	1,657,	2,117,	− 423,	460,	− 23·71	28
Belgium	10,726,	16,849,	11,887,	13,016,	6,123,	1,129,	57·08	9
France	38,459,	43,658,	26,558,	19,795,	5,199,	− 6,763,	13·52	− 25
Portugal	3,025,	2,378,	2,427,	2,179,	− 647,	− 248,	− 21·39	− 10
Spain	8,399,	10,354,	3,759,	4,183,	1,955,	424,	23·28	11
Spain West India islands	2,930,	131,	2,436,	2,260,	− 2,799,	− 176,	− 94·85	− 7
„ Philippine „	1,481,	2,180,	613,	779,	699,	166,	47·20	27
Italy	3,233,	2,948,	6,040,	5,978,	− 285,	− 62,	− 8·81	− 10
Austrian territories	1,686,	1,627,	1,047,	1,542,	− 59,	495,	− 3·50	47
Greece	1,861,	1,420,	1,081,	650,	− 441,	− 431,	− 23·70	− 39
Roumania	1,373,	4,218,	1,097,	1,463,	84,	366,	207·21	33
Turkey	3,473,	4,979,	7,705,	6,191,	2,845,	− 1,514,	43·36	− 19
Egypt	8,890,	8,845,	2,208,	3,434,	1,506,	1,226,	− 0·51	55
United States	91,818,	91,784,	25,519,	35,715,	− 45,	10,196,	− 0·04	39
Mexico	583,	584,	765,	1,257,	− 34,	492,	0·02	64
Central America	1,386,	1,198,	748,	727,	1,	− 21,	− 13·76	− 2
Brazil	4,750,	4,636,	5,986,	8,068,	− 188,	2,082,	− 2·40	34
Argentine Republic	828,	4,837,	2,137,	5,658,	− 114,	3,521,	484·19	164
Chili	3,738,	3,797,	1,049,	2,614,	4,009,	1,565,	1·58	149
Peru	3,388,	1,399,	909,	852,	59,	− 57,	− 58·71	− 6
China	11,049,	3,894,	5,140,	4,699,	− 1,989,	− 441,	− 68·05	− 8
Japan	451,	1,046,	2,997,	3,732,	− 7,155,	735,	131·93	24
Western Coast of Africa	1,459,	331,	995,	755,	− 1,128,	− 240,	− 77·31	− 24
Total	279,278.	309,349,	176,358,	190,824,	+ 30,071.	+ 14,466,	....	—

TABLE VII.—WOOL. *Quantity of Wool of Home Produce Exported from principal British Possessions.*

[Statistical Abstract, "Colonial Possessions, 1879-93," p. 40.]

Possessions.	Quantities Exported. [000's omitted.]		Increase or Decrease.	
	1879.	1893.	Absolute.	Per Cent.
	lbs.	lbs.		
India, British	26,369,	24,249,	– 2,120	– 8·04
Australasia*	297,939,	659,681,†	+361,742	+121·42
Natal	12,029,	24,067,	+ 12,038	+ 1·00
Cape of Good Hope	40,087,	66,660,	+ 26,573	+ 66·28
Canada and Newfoundland	3,013,	1,168,	– 1,845	– 61·23
Total exports from all the above-mentioned possessions	379,437,	775,825,	+396,388	+104·71

* The figures for Australasia represent the *excess* of wool exported from Australasia to non-Australasian countries.

† 1892.

MISCELLANEA.

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I.—*On some Recent Contributions to the Theory of Statistics.*[*]

By Professor F. Y. Edgeworth, D.C.L.

The higher theory of statistics is concerned not only with averages, but also with deviations from averages. It investigates the general laws which govern the grouping of the members of species, or clusters, such as the statures of men of the same race, the set of figures which are formed by the proportions between male and female births or deaths in a series of years, the marks given by different examiners to the same piece of work, and almost all other rows of statistics. The study of laws so general—prevailing throughout the whole realm of science, and even beyond its border, in the debateable land between chance and knowledge—ought surely to afford a peculiar contemplative pleasure. It is apt also to be of practical use by throwing light upon the question: What is the worth of an average, how far is one average likely to differ from another formed by the same number of statistics, *in pari materiâ ?*[1]

Among those who have recently treated this subject, Professor Karl Pearson has obtained a foremost place, through his brilliant solution of a problem which had long baffled theoretical statisticians;[2] to break up into normal groups statistics relating to different types—such as the measurements of stature in a province containing two heterogeneous races. When therefore Professor Pearson offers some new contributions to the theory of statistics,[3] he raises high expectations, he claims a respectful attention.

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[*] The Roman numerals in brackets refer to the mathematical appendix.

[1] The inquiry which forms the subject of the present writer's "Methods of Statistics" in the Jubilee volume of this Journal. Great advances in this application of the higher theory have lately been made by Professor Westergaard in his *Grundzüge*.

[2] Described in the *Journal of the Royal Statistical Society* for December, 1893.

[3] "Contributions to the Mathematical Theory of Evolution," No. II.—*Phil. Trans. Royal Society*, 1895.

The additions which he has made to the science may best be appreciated if we first consider the height to which it had previously been built.

The fundamental principle is the so-called *law of error*, propounded by Laplace and perfected by Poisson. (I) The law in its most general form imports that if the members of a species agree in each depending on a number of independent causes—each being the same function of a number of small elements—and differ only in the varying operation of the causes—the different values which the elements assume from time to time at random, as we may say—then the dimensions of the several members of this species will tend to be arranged in conformity with a certain simple law: so as to form a curve of which the equation is[4]

$$y = \frac{1}{\sqrt{\pi}c} e^{-\frac{x^2}{c^2}}$$

For example, if the group consists of figures which are formed by adding up the pips turned up in the course of a certain large number, say 36, throws of a die: here each cause is the throw of a die, each element is the number of pips turned up at one throw; therefore the sum of 36 elements will vary about its mean value, viz., $36 \times (1 + 2 + 3 + 4 + 5 + 6) \div 6 = 126$, according to the above written law; the constant c being in this case approximately 14·5. (II)

The prevalence of the law of error in other classes of phenomena is presumed to admit of a similar explanation. Stature for instance is known, or fairly presumed, to be affected by the accidents of birth, by diet, exercise, and a variety of other independent circumstances; and it is known to conform to the law of error. It is a reasonable hypothesis that the connexion between these two facts is that which has been indicated.

The theory of error was not much enhanced by the immediate successors of Laplace and Poisson. Indeed they did not preserve intact the heritage which they had received. Even Quetelet, to whom we owe most important exemplifications of the law, did not contribute much to its *rationale*. Rather he sacrificed generality to clearness, when he described the curve of error as generated after the manner of a symmetrical "binomial;" each ordinate representing a term in the series $i(\frac{1}{2} + \frac{1}{2})^n$ [5]—a limited conception which is still, it is to be feared, the usual one. Even Professor Pearson hardly does justice to the generality of the received law, in the following passage read in connexion with preceding ones:—

"The normal curve of errors" [viz., the curve above written] "connotes three equally important principles:

(i.) An indefinitely great number of 'contributory' causes.

(ii.) Each contributory cause is in itself equally likely to give rise to a deviation of the same magnitude in excess and defect.

(iii.) The contributory causes are independent.

The frequency of each possible number of heads in repeatedly throwing several hundred coins in a group together, practically fulfils all the above three conditions."[6]

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[4] For further explanations, see the present writer's "Methods."—*Journal of the Statistical Society,* Jubilee volume.

[5] Here i represents a small interval or degree on the abscissa.

Upon this it may be remarked: (i) the number need not be so very great; all that is required is that $\frac{1}{n}$ should be small, capable of being neglected in comparison with $\frac{1}{\sqrt{n}}$. Probably 25, or 36 would be a number large enough to give a fair approximation. The "infinite greatness of *n*"[7] has surely not been postulated by any sane statistician.[8]

The consideration that the number of elements is limited and the range of each is small, seems to dispose of difficulties respecting the "range" of the compound phenomenon. The range of a group of statistics conforming to the received law of error is according to this view in general limited.

(ii.) The symmetry of the elementary causes is not essential. (III) As discovered by Poisson, and repeated by Todhunter, the elements may vary according to *any* law, symmetrical or not, "fractionised" or otherwise.[9]

From the genesis of the law of error we should not expect it to be perfectly symmetrical. The greater the number of the elements or contributory causes, the more closely does their sum or coefficient hover about its averages, according to the regular law of error; the smaller is the proportion of extreme cases which do not obey that law. But it is possible, it is in general probable, that there will be a balance of inclination in one direction, a preponderance which is not calculated to disappear altogether in the long run if the number of the elements is not exceedingly great. This asymmetrical effect is indicated, though not perhaps very clearly or fully stated, by Poisson and his interpreter Todhunter. According to their reasoning the more general law of error (IV) is of the form

$$(a) \qquad \frac{1}{\sqrt{\pi c}} e^{-\frac{x^2}{c^2}} (1 + b \times \theta),$$

where θ is a function of x given explicitly in the Appendix, and b is a coefficient which is in general, upon the suppositions made, small (with respect to unity); except in cases where the asymmetry of the elements is extreme, while their number is not exceedingly great. Take for instance the particular case of a binomial; and let each element consist of two values assumed with the respective probabilities p and q, which are not equal to each other; *e.g.*, if a card is drawn at random, the probability of *hearts* is $\frac{1}{4}$, of some other suit, $\frac{3}{4}$. The frequency of *hearts* in a great number of cards thus drawn at random, will conform to the above-written second approximation. It is not a necessary condition that the elements should be nearly symmetrical that "p does not differ much from q;"[10] it suffices that this difference should not be extreme, that pq should not be very small, not of the same order as $\frac{1}{\sqrt{n}}$. (V)

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[6] Pearson: *Phil. Trans.*, p. 410.

[7] Ibid., pp. 357—59.

[8] An attempt to determine the number of elements underlying a statistical group has been instituted by Mr. F. Galton, *Phil. Mag.*, 1875, p. 43; *cp.* Ibid., vol. xxi, p. 317.

[9] Pearson: *Phil. Trans.*, p. 358.

[10] Ibid., p. 348.

Let us now go on to consider the additions which have been made to this theory.

One important contribution is the "geometrical relation" pointed out by Professor Pearson, by virtue of which the Binomial $i(\frac{1}{2}+\frac{1}{2})^n$ is represented by the received law of error, the symmetrical probability curve above written, *without any condition as to the magnitude of* n.[11] This theorem, curious and valuable in itself, is doubly important as leading by a beautiful analogy to a new representation of the "skew binomial," meaning by this phrase the diagrams which represent the terms of $i(p+q)^n$, where p and q are unequal, *e.g.*, the frequency of hearts in the example above given. The new form of curve representing this locus is[12]

$$(b) \qquad y = y_0 \left(1 + \frac{x}{a}\right) e^{-\gamma x},$$

where y_0 is the ordinate at the origin; a and γ are constants, determined by the given p, q, and n.

According to the view here taken, the importance of this discovery consists principally in these three circumstances.

(1) It affords an additional method of dealing with the asymmetrical Binomial. Let it not be supposed that the case is a mere *curiosum*, applicable only to cards and dice. It has lately been shown by Professor Westergaard[13] that the sort of grouping proper to this case is much more prevalent in concrete statistics than might have been supposed.

(2) The statistics which are known to group themselves after the analogy of games of chance are all rates or ratios; such as certain kinds of death-rates, or the ratios between male and female births, or deaths. To account for this phenomenon we have only to suppose that each item, *e.g.*, the life or death of a particular individual, results from a set of causes which act independently of the causes on which another item depends, with the same degree of independence as the causes producing *head* or *tail* for one throw of a coin act independently of the causes affecting other throws. The analogy might be extended beyond the case of *ratios*, if we are entitled to make a further supposition, which may be indicated by reference to a particular instance: the series of barometer heights given by Dr. Venn and discussed by Professor Pearson,[14] which range from 30·7 inches down to 28·7 inches. This series might be accounted for by the following hypothesis. Let there be some twenty independent elements, and let each element assume the value ·22 inches, or zero, with the same frequency as a "ten-sided

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[11] *Phil. Trans.*, pp. 355—56.

[12] Ibid., p. 357.

[13] *Grundzüge.* The binomial law, the "combinatorial" as distinguished from the "physical" modulus, Jubilee volume, p. 191, note, is found to prevail not only in the case of the ratio of male to female births, as discovered by Professor Lexis, but also for many other ratios.

[14] Venn: *Nature*, 1st September, 1887.—*Journal of the Royal Statistical Society*. Pearson, *loc. cit.*, p. 352.

teetotum," with faces marked 0, 1, 2 . . . 9, in a long series of throws presents, now 0, now not-0 (any other face). Each sum of twenty elements thus formed, measured downwards from a point near 30·7 inches, corresponds to a barometric observation. Much more asymmetrical groups might be accounted for by a similar hypothesis;[15] provided that either the number of faces on the teetotum (the asymmetry of the elements) is greater, or that the teetotum is spun less often (the number of elements is smaller).

But can we suppose that the causes which produce natural phenomena are so simple? Can it be assumed that all the elements which go to produce a depression have the same law of variation, and that law "binomial," each element oscillating between only two values (*e.g.*, 0 and ·22 inches). Surely the utmost assumption that can in general be made is that the elements are numerous and independent. Accordingly not much weight is here attached to the circumstance that the curve (*b*) may represent a "binomial" of the kind just specified.

(3) According to the view here taken, the new discovery is important chiefly as presenting a variant and in some respects simpler form of the curve (*a*) above referred to as the general (asymmetrical) probability curve. Curve (*b*) is important as being equivalent to curve (*a*) in what may be called the general case of numerous independent elements fluctuating anyhow. (VI)

But it is not principally on these grounds that Professor Pearson recommends the new curve; but because it is a particular case of a more general curve which he obtains by taking into consideration the possibility that "the contributory causes are interdependent."[16] He puts as a type of such interdependence the following problem: Let there be *n* balls in a bag, *pn* of them black and *qn* white, and let *r* balls be drawn from this bag: what is the probability that any assigned number out of the *r* balls should be black? He finds for the answer a curve of immense generality, which includes as particular cases the received law of error, whether in its simplest form proper to the case of symmetry, or the more general form (*b*) which as above shown presents a variant of the Poissonian asymmetrical law of error (*a*).

Upon this derivation of "the generalised probability curve" it may be remarked that the problem proposed as typical of interdependent causes, and certain other problems to which the author refers, do not appear sufficiently general. Any number of problems involving "interdependent contributory causes" may be imagined which cannot be reduced to the above type. An endless variety of curves may be manufactured by assuming different kinds of interdependencies between the causes. The analogy with certain problems about cards does not seem sufficient as a proof. There is desiderated a proof of the new formula such as is afforded for the received law of error by the Laplace-Poisson analysis alluded to above.[17] (VII) But it may be doubted whether any such proof can be forthcoming; whether there is any one form towards which the operation of interdependent causes tends—at least without the introduction of some additional condition not specified by the author.[18]

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[15] As explained below, this is not exactly the hypothesis which Professor Pearson accepts.

[16] *Phil. Trans.*, p. 366 *et ante.*

[17] P. 507.

If the view here taken is correct, the author's distinction between curves with limited and with unlimited range does not correspond to any real difference. Alike those which are referred to the first class, such as the statistics of barometric heights,[19] and those which are referred to the second class, such as crab measurements, human statures, measurements of skulls,[20] are to be explained by the *rationale* which has been referred to above. The adaptation of the second class to elaborate trigonometrical calculation is rather mathematically curious than statistically important.

Against the view here expressed with so great temerity, there are to be set some weighty considerations.

There is first the wonderfully close fit of Professor Pearson's formulæ to the facts. It is a nice question what weight should be attached to this correspondence by one who does not perceive any theoretical reason for the formulæ. The philologist does not accept the school-boy's derivation of *virgo* from *vir*, a man, and *ago*, I lead, although it fits closely the word in its old form, *virago*. It might be hard to define the reason for not accepting the derivation. There is a sort of sixth sense acquired by experience. The matter is one on which authority ought to count. Now with respect to the derivations with which we are here concerned, Professor Pearson is a first-rate authority. One way of looking at the matter is to examine whether an equally good fit could be secured by any other curves not more complicated. Professor Pearson seems satisfied that his curves will stand this test. (VIII)

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[18] Especially if it is understood that Professor Pearson makes no stipulation about the magnitude of n, the number of causes.

[19] Professor Pearson's *Examples*, I, p. 382. These statistics may be considered as just not exceeding that degree of asymmetry which is permitted by the general curve (a); prescribed by the condition (see Appendix, IV—VI) that the mean cube of the deviations from the arithmetic mean (here 15·95) should be small in comparison with the cube of our constant c, which is the square root of twice the mean square of the deviations from the arithmetic mean (here $c^3 = 91·1$).

Some of the cases handled by Professor Pearson decidedly exceed what is here regarded as the regulation degree of asymmetry, *e.g.*, the figures for the duration of marriages, the frequency of divorces (which form his Example IX). Here the mean cube of deviation is 809·15, while c^3 is only about 1,340; accordingly the figures appear not to represent a general law of error, not to emanate from a crowd of small causes, by their very multifariousness resulting in a single law. Rather the causes of dispute from which these statistics of divorces result may be supposed few in number (or more exactly, as shown in note V, the elements are few in relation to their asymmetry). Each cause according as it acts favourably or unfavourably may possibly increase or diminish the duration of a marriage by several years (the elements must have a range of at least half a dozen years to account for the distance between the arithmetic mean and the greatest ordinate), though a cause will not always exercise its full effect (the elements will not be "binomial" but "fractionised;" each enjoying from time to time several values). This at least is one hypothesis (the possibility of elements of different orders of magnitude greatly complicates the supposition). But there is no certainty about the cause of these observations, no science, as there is in the case of the general law of error. Perhaps the statistics of divorce do not form even a particular law of error, do not result from even a few coordinate causes, but from one dominant cause. *In rerum naturâ* there are other laws besides the law of error. The *law of cooling* is different from the law of error in physics; and why not also in the moral world?

[20] *Examples*, II—V, pp. 384—89. These four cases are all within the regulation degree of asymmetry.

Then one cannot be insensible to the charm of the mathematical analogies which favour Professor Pearson's theory.[21] There is doubtless something in these considerations. Perhaps they are as cogent as some of the reasons which in times past have been advanced by eminent men in favour of the method of least squares which is now generally received. It is not to be thought that there is nothing in the new theory, because it does not supersede the analysis of Laplace and Poisson.

Beside the main thesis, there are also in the paper under consideration many incidental lessons in the highest degree instructive to the statistician. Such is the suggestion with respect to moving means—such as are apt to occur with the progress of society and in the course of physical evolution—as to the direction in which the movement takes place: "the skew curve is shifted away from the normal" [symmetrical] "curve in the direction in which variation is taking place with lapse of time." There may be noticed also an ingeniously improved method of determining the constants for curves of error; and a new method of representing statistics, like Mr. Goschen's for the number of houses corresponding to each amount of valuation, in which the one attribute continually decreases as the other increases. (IX) There are also some additional observations on the resolution of heterogeneous statistical material into homogeneous groups. The author is able to say, "I feel very confident that, whatever be the combination of causes which result in the mortality curve" [the curve representing the number dying in each year of age out of 1,000 born], "that curve is very approximately to be considered as the compound of five types of mortality centering about five different ages." Professor Pearson may speak with the greater confidence on such a matter, as he has conceived and applied a new test for the fit of curves to statistics. The first of the five components of the mortality curve, the curve of infantile mortality prolonged below the point of birth, suggests some curious speculations as to ante-natal deaths. The power of statistical theory not only to represent known facts, but to point to new ones, is strikingly evinced. In this connexion the author speaks justly of "the absolute necessity of skew curves in all questions of vital statistics;" and no doubt it is awkward for those who impugn his main thesis to be unable to substitute any other unique *rationale* for the general theory by which he has so elegantly explained extremely asymmetric groupings. However statisticians may differ, or be indifferent, about mathematical subtleties, there can be no doubt about the value of the statistical material which Professor Pearson has amassed, and the skill with which he has worked it up.

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[21] P. 391 *et ante.*

It is not every first-class theorist who is willing to take so much trouble in carrying out his ideas.

Mathematical Appendix.

I. For a fuller statement, see the present writer's article on "The Law of Error," in the *Philosophical Magazine*, vol. 34 (1892), p. 430 *et sqq.*, and other papers referred to therein. It will be observed that the range of each element must be relatively small in such wise that the given function of all the elements by Taylor's theorem may be treated as linear. The variation of each element, though called random, may really be—and be known to be—according to law, provided that the several laws are "independent." Take for instance, (a), the sum of the fifth digits of any number of constants π, e, $\sqrt{5}$, &c.; (β), the sum of the *sixth* digits, and so on. The sums α, β, γ . . . will be grouped in a probability curve (if the constants operated on are sufficiently numerous, and not *in pari materiâ*); and yet there is a reason for each digit being what it is.

II. By the formula $c^2 = 2\frac{Se^2}{n}$. Attention should be called to Professor Pearson's slight modification of this formula, *Phil. Trans.*, p. 355.

III. The references here are to Todhunter's *History of Probabilities*, Art. 1002, reproducing Poisson, and to Professor Pearson's article, p. 358. The laxity of the conditions which suffice in the genesis of the probability curve is also clearly shown in Mr. Morgan Crofton's proof of the law of error by way of partial differential equations. (*Encyclopædia Britannica*, Art. "Probability," and compare the same author's paper in the *Transactions of the Royal Society*).

IV. The generalised form of the probability curve is

$$(a) \qquad y = \frac{1}{\sqrt{\pi c}} e^{-\frac{x^2}{c^2}} \left(1 - \frac{2\mu_3}{c^3}\left[\frac{x}{c} - \frac{2}{3}\frac{x^3}{c^3}\right]\right),$$

where c^2 is, as in the simple formula, twice the mean square of error, and μ_3 is the mean cube of error (errors measured from the centre of gravity).

This form was given by the present writer in a paper read before the Royal Society in 1894 (preserved in the archives of the Society). It was obtained by three methods: (1) by completing the analysis which Todhunter (Art. 1002, near end), after Poisson, indicates as a second approximation to the limit to which the simple curve is a first approximation; (2) by way of partial differential equations analogous to the proof of the simple law given by Mr. Morgan Crofton (*Encyclopædia Britannica*, Art. "Probability"); (3) from the general form obtained by De Forest (in the *Analyst*, Connecticut), which becomes identical with the above when the coefficient $\mu_3 \div c^3$ is small, that is in general when the asymmetry of the elements is not extremely great; since the said coefficient is a quantity of the order $\frac{1}{\sqrt{n}}$, and n is supposed large. The form given by De Forest is identical with one independently discovered by Professor Pearson; above referred to as (b). (See *Nature*, 1895, p. 317.) It is here contended that this form in its generality, and when it is different from (a), is not applicable to the general law of error; because it does not fulfil the partial differential equation which must be fulfilled by such a law.

V. In the case supposed the coefficient b is of the order $\frac{1}{\sqrt{npq}}$, and therefore if n be sufficiently large, will remain small, even though p and q differ considerably.

VI. Upon the principle explained in the last two notes the coefficient $\frac{1}{a}$ (in Professor Pearson's notation of p. 357) is of such an order that his expression for the skew binomial (*loc. cit.*) becomes identical with the expression given by Todhunter (Art. 993), after Laplace; which itself is a particular case of the general (asymmetrical) probability curve above written (a). See the present writer's paper on the asymmetrical probability curve referred to in note IV.

VII. Let $y = \phi(x)$ be the law of frequency for one element; $y = \psi(x)$ the law for another. Then, as shown by the present writer elsewhere, the elements being independent, the law of frequency for their sum is given by the integral (between proper limits)

$$\int \psi(z)\, \phi(x+z)\, dz.$$

When another and another element is superadded, it may be shown—*e.g.*, by way of partial differential equations—that the limiting form to which the compound tends is the received probability curve. But can there be any equally general proof when, instead of $\psi(z)$ in the above integral, we write $\psi(x, z)$—the frequency of the second element being affected by the particular value of the first which has occurred, with a corresponding modification of the third element, which now is affected by the values both of the first and of the second?

VIII. The tests of this sort instituted by the present writer, to which Professor Pearson refers (pp. 354 and 385), were made with curves not so complicated as his "generalised probability curve," as they involved only *three* constants, whereas his curve involves *four* constants (p. 367).

IX. As a *curiosum* may be mentioned a somewhat similar curve which, as shown by the present writer (*Philosophical Magazine*, vol. 34 [1892], p. 436), may arise in the exceptional case when a function of many independently fluctuating small elements is *not* represented by a probability-curve. The following is an example. Suppose a body at rest to be acted on by a number of small impulses, each determined by any random law (above, note 1), which gives a motion in the positive as often as in the negative direction. Then the *momentum* of the body in repeated trials (or of several bodies simultaneously submitted to the conditions) will vary according to an ordinary probability curve

$$y = \frac{1}{\sqrt{\pi c}} e^{-\frac{x}{c^2}}.$$

But the *energy* will vary according to the curve

$$y = \frac{1}{2\sqrt{\pi c}} \frac{1}{x^{\frac{1}{2}}} e^{-\frac{x}{c^2}};$$

the shape of which is similar to Professor Pearson's curve representing numbers of houses of a certain valuation, frequency of petals in certain flowers, number of blossoms of a certain kind. (Examples X—XII.)

II.—*Distribution of Property and Incomes in Norway.*[22]

THIS work is mainly concerned with the results of an attempt to estimate the total amount of income and wages in Norway, while a short chapter is devoted to an investigation of the capital value of property of all kinds in the country. In an introduction, the author says that there are two processes by which it is possible to obtain an estimate of the relative value of properties and incomes in the country, viz., the collective method and the individual method.

As regards properties, the collective method consists in calculating for the whole country the value of the real property, such as land, woods, and houses, together with live stock, vessels, railways, stocks of goods, and other movables; while in the case of incomes, an endeavour is made to calculate the net profits of the different trades: agriculture, manufactures, mines, fisheries, industry, and commerce, together with professional incomes and wages generally.

The individual method consists in estimating the value of the estates and incomes of individuals and the average value of the estates and incomes of different classes, and forming from these an estimate of the economic condition of the entire population.

In the present work M. Kiær has adopted mainly the individual method.

According to the assessments made in 1891, which relate to the incomes of the year ended 30th September, 1890, and to the value of property at the latter date, the incomes assessed to income tax amounted in the aggregate to 328 million kroner,[23] while the total value of the assessed properties was 1,574 million kroner.

As regards properties, the total value shown in the assessments by no means represents the value of all properties in Norway. For instance, property belonging to the State, local authorities, the

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[22] *Indtaegts-og Formuesforhold i Norge.* By A. N. Kiær: *Statsokonomisk Tidsskrift*, 1892-93.

[23] 1 kroner = 1*s.* 1½*d.*

Norway bank, the mortgage bank, railways, universities, and other institutions is not assessed either to property tax or to income tax. Hence it is necessary to add to the sum referred to above the value of this class of property, which M. Kiær estimates, in the absence of satisfactory data, at between 200 and 250 million kroner. Moreover, considerable additions would have to be made for the following items, which are not included in the official returns of assessments, viz., the aggregate value of properties which are too small to be assessed, the value of furniture and other movables which are not assessed, and the capital value of incomes, annuities, and pensions, which cease with the death of the person enjoying them; while account must also be taken of the fact that the official assessments are as a rule 20 per cent. below the actual value of the properties assessed. Making allowance for these omissions, M. Kiær increases the official estimate from 1,574 million kroner to over 2,000 million kroner. He calculates the entire value of property in Norway to be something between 2,200 and 2,500 million kroner, and after making inconsiderable deductions for property belonging to foreigners, &c., he estimates the national capital to be roughly of the value of 2,250 million kroner. A calculation, made in 1883, on the collective method, showed the total value of property in Norway to be between 1,800 and 2,000 million kroner, and M. Kiær directs attention to the correspondence between the earlier estimate and the results he has arrived at in the present work.

As to incomes, including wages and salaries, the taxable incomes in Norway, according to the assessments of 1891, amounted in the aggregate to nearly 328 million kroner. M. Kiær points out that in order to get at the national income some additions must be made for the untaxed incomes arising from property belonging to the State, communes, various institutions, the profits of the Norway Bank, railways, &c. But the net incomes from these sources will not increase the national income to any remarkable degree, partly because of the increasing demand to meet the national debt and the debts of local authorities, and partly because the State and communal property yields for a large part no net income. A further allowance has to be made for the large number of incomes of the working classes which are not included in the assessment, as they fall below the minimum assessable income; these incomes are estimated to be of the aggregate value of 40 to 50 million kroner. M. Kiær makes another addition, in respect of the incomes represented by the work done by women in the performance of household duties. He points out that among the poorer classes the wives and daughters perform many duties that in a larger establishment would be carried out by some particular trade or industry, such as laundry work and tailoring. Even housekeeping, he says, has an economic value which may be justly credited to incomes, as is demonstrated by the fact that a man without female relations has to engage a salaried housekeeper. Then as to the work done by daughters in the house, M. Kiær calculates that more than 300,000 females are thus engaged, displacing to a large extent paid labour in the shape of domestic servants. The total value of incomes represented by female labour of this nature, is put at below 80 and

100 million kroner. Finally, between 20 and 30 million kroner are added to the total in respect of inadequate assessments.

The several additions bring up the total amount of the national income to between 518 and 583 million kroner, or in round numbers to between 500 and 600 million kroner.

The foregoing results have been obtained by taking the assessments of taxed incomes and adding thereto various classes of incomes which are not included in the official returns. M. Kiær has, however, endeavoured to estimate the national income of Norway by calculating the average income and wage in each of the principal trades and professions, and multiplying it by the total number of persons returned at the census as engaged in that trade or profession. The figures obtained by this method serve not only to test the accuracy of the estimate based on the assessments, but also to give some idea of the distribution of income amongst the various classes of occupations. A calculation on these lines has never before been made for Norway, nor, so far as M. Kiær is aware, for any other country.

The total income in each trade and profession as ascertained by this method is given as follows:—

Trade or Profession.	Men.		Women.		Total.	
	Number of Persons.	Income.	Number of Persons.	Income.	Number of Persons.	Income.
		Kroner.		Kroner.		Kroner.
1. Public officials and professions	19,451	31,267,000	7,478	4,414,880	26,929	35,681,880
2. Agriculture, grazing, forestry, &c.	241,632	124,806,700	86,065	22,114,330	327,697	146,921,030
3. Fisheries	55,700	21,129,200	1,055	287,500	56,755	21,416,700
4. Mines, quarries, &c.	4,253	2,336,900	142	54,660	4,395	2,391,560
5. Manufactures	40,403	30,900,800	7,805	2,389,650	48,208	33,290,450
6. Handicrafts	70,561	38,676,400	4,303	1,453,070	74,864	40,129,470
7. Small industries	6,886	3,232,200	37,901	9,818,640	44,787	13,050,840
8. Establishment and maintenance of communications	5,189	2,986,700	9	2,800	5,198	2,989,500
9. Trade and finance	33,279	54,248,350	9,060	4,152,650	42,339	58,401,000
10. Inn keeping, &c.	1,309	1,409,200	4,833	2,246,600	6,142	3,655,800
11. General land transport	7,203	3,851,240	171	62,100	7,374	3,913,340
12. Railways	2,720	2,354,750	97	46,300	2,817	2,401,050
13. Shipping	41,437	35,988,000	504	1,008,650	41,941	36,996,650
14. Harbours, lighthouses, and pilotage	1,268	1,520,600	10	3,290	1,278	1,523,890
15. Lumber trade	1,976	1,046,000	—	—	1,976	1,046,000
16. Post office, telegraphs, and telephones	1,308	1,425,100	455	394,850	1,763	1,819,950
17. Household duties and work connected therewith	10,873	3,207,700	455,503	132,826,730	466,376	136,034,430
18. Undefined	4,872	1,882,880	3,714	788,500	8,586	2,671,380
19. Incomes from investments, pensions, &c.	26,394	14,803,100	30,919	22,031,700	57,313	36,834,800
Total	576,714	377,072,820	650,024	204,096,900	1,226,738	581,169,720

M. Kiær draws attention to the fact that the total arrived at in the foregoing table corresponds closely with the amount obtained, namely, from 500 to 600 million kroner, by estimating the incomes on the basis of the assessments.

III.—*Statistics of Employment of Women and Girls.*

[THE following is extracted from the *Report by Miss Collet on the Statistics of Employment of Women and Girls.* C–7564, 1894. Price 8*d.*]:—

The object of the report now presented is to give in small compass such statistics bearing on the employment of women and girls in England and Wales as have been obtained comparatively recently and on a sufficiently large scale to be representative. Most of the information made use of is now published for the first time, and a great part of the statistics dealt with have been collected specially for this report.

The principal sources of information have been the following:—

1. Returns made to the Labour Department in 1894 by cotton, woollen, and worsted manufacturers as to the employment of married women in their mills, specially procured for this report.

2. The statistics of occupation of women and girls at different ages in urban sanitary districts with over 50,000 inhabitants, which have been compiled for the purposes of this report from the census sheets placed at the disposal of the Department by the courtesy of the Registrar-General.

3. The published returns of inquiries recently conducted on the required scale and according to uniform methods to be found in the census returns of occupations in 1891, and in the Board of Trade returns of rates of wages in textile trades in 1886.

The report is divided into three parts, dealing with (1) census returns of occupation for 1891, (2) Labour Department returns of the employment of married women in 1894, (3) Board of Trade returns of rates of wages in the cotton, woollen, and worsted industries in 1886.

In Part I the census returns of the employment of women and girls in 1891 have been compared with those for 1881. In making the comparison the increase in population has been taken into account, the numbers occupied being expressed in ratios of the female population living over 10 years of age. Employment in trades therefore in which the number of women and girls occupied has increased absolutely, but not in proportion to population, is said to be declining. So also, in comparing the rate of increase in the employment of women and girls with the rate of increase in the employment of men and boys, the ratio of the number of women and girls occupied in any trade to the number of the female population living above 10 years of age is compared with the ratio of the number of men and boys occupied in that trade to the number of the male population living above 10 years of age. Thus, for example, it is shown that in every 100,000 females above 10 years of age 96 more were returned as commercial clerks in 1891 than in 1881; whereas in every 100,000 males above 10 years of age 282 more were returned as commercial clerks in 1891 than in 1881. This method of comparison has been adopted as giving a more correct impression of the facts than is obtained by stating that the small proportion of women and girls engaged as commercial clerks increased 160 per cent., whereas the much larger proportion of men and boys engaged as commercial clerks increased 15 per cent. This latter form of statement obscures the fact that the increase amongst men and boys is much more remarkable than that amongst women and girls.

In the Appendix to Part I are given the numbers of women and girls occupied at each age period in England and Wales, London, and the sixty-one urban sanitary districts with over 50,000 inhabitants; the numbers occupied per 1,000 women and girls living at each age period are also given. These calculations have been made from the unpublished census sheets of occupations.

In Part II the question of the employment of married women is considered from another side. In Part I is shown the minimum percentage of women and girls *living* who are occupied and married (or widowed). In Part II are given statistics from employers in the cotton, woollen, and worsted trades, showing the number and proportion of *occupied* women and girls in their mills who, in 1894, were married or widowed.

The summarised results of these returns are compared with those of the census so far as possible with a view to testing their accuracy.

In Part III the broad results of the Board of Trade rates of wages return for 1886 are summarised so far as they relate to women and girls employed in the cotton, woollen, and worsted trades in England. An attempt has been made to discover whether there is any indication of a relation between the rates of wages and the employment of married women.

Recent Changes in the Employment of Women and Girls.

The result of the comparison with 1881 (Table I, p. 526) shows that in 9 out of 18 occupations, each employing over 1 per cent. of occupied women and girls in 1881 or 1891, the employment of women and girls increased relatively to population; these 9 occupations employed in all 812 in every 10,000 women and girls above 10 years of age, or 90 more than in 1881.

The 9 other occupations, each employing over 1 per cent. of occupied women and girls, employed in all 1,963 in every 10,000, or 126 less than in 1881.

The remaining occupations, each employing less than 1 per cent. of occupied women and girls, employed in all 667 in every 10,000, or 73 more than in 1881.

In the occupations which in 1881 or 1891 employed over 1 per cent. of occupied women and girls, the employment of women and girls had increased at a greater rate than population in the following cases: tailoring, millinery and dressmaking, shoemaking, inn and hotel service, lodging and boarding house keeping, sick nursing, drapery shop assistance, teaching, and the group of occupations described as "grocer: tea, coffee, chocolate maker, dealer," which includes girls employed in cocoa and chocolate works.

In these 9 groups of occupations the number of males occupied did not, in four cases, increase as much as the male population, viz., tailoring, shoemaking, drapery shop-keeping and shop assistance, and teaching. In each case the decline was relative to population, and was not an actual decrease. The decrease in the boot and shoe trade was entirely among men over 25 years of age. The decrease in the teaching profession was entirely amongst young men and boys under 25 and old men over 65. The slight decrease in drapery shops was amongst men between 25 and 45. In the tailoring trade the decrease was principally amongst men over 45 years of age.

In 3 out of the 9 large groups showing a decline in the employment of women, the decline was an actual one, not merely a relative one, and occurred amongst seamstresses, silk operatives, and farm servants.

Of the 6 other large groups 5 show a decline relative to population, viz., indoor domestic service, the cotton, woollen, and worsted manufactures, and "washing and bathing service." The sixth, charwomen, has neither advanced nor declined.

The relative decline amongst domestic servants is entirely amongst girls under 25. The relative decline in the cotton and woollen trades is manifest at each of the age groups above 15 years, and in the worsted trade also, with the exception of women above 65, where the ratio is stationary. In the washing and bathing service the decline is entirely amongst women over 25 years of age.

Employment of Married Women.

The statistics of the employment of married women have received the most attention in this report. A calculation has been made showing the minimum number of married or widowed women who must have been returned as occupied in 1891. Wherever the number of occupied exceeded the number of unmarried women, obviously the excess of occupied over unmarried represents the smallest number of married or widowed women who were returned as occupied. This minimum number of occupied married (or widowed) women has in each case been expressed in numbers per 1,000 living at each age period.

Where the number of unmarried is in excess of the number of occupied, the excess of unmarried over occupied in the same way represents the smallest number of unmarried women and girls who were returned as without occupation.

Thus in every 1,000 women living between 35 and 45 years of age, at least 86 were both occupied and married (or widowed) in England and Wales, 121 in London, 240 in Central London, 62 in Bath, 281 in Preston, 302 in Burnley, 341 in Blackburn, and so on; Hastings being the only one of the sixty-one towns where at this age period the number of unmarried women was in excess of the occupied, the minimum number of unoccupied and unmarried women in this town being 13 per 1,000 women living at that age period.

The centres of the textile manufactures, being those in which the great majority of occupied women are known to be employed away from home in mills, are those on which attention has been concentrated in this report.

It must be carefully noted that the numbers given represent the minimum proportion of *married* and *widowed* women who were occupied. It is this calculation which is most important when rates of infant mortality are being considered in connection with differences in the employment of married women. The statistics show that in every one of the nineteen towns for which the particulars are given, except Burnley, the minimum percentage of married and widowed women between the ages of 25 and 45 returned as occupied diminished between 1881 and 1891, the diminution in Blackburn being very slight indeed, and leaving it the highest on the list in 1891, although the Labour Department returns for 1894 show that the percentage of mill operatives married was higher in the latter year in Burnley than in Blackburn (see Table II, p. 527).

Although this diminution in the minimum percentage of married and widowed women engaged as wage earners may be accepted as showing a decline in the employment of married women, the percentages are nevertheless regrettably high, and it will be noticed that they are highest in districts where almost all the available girls and young women are also employed.

Connection between Rates of Wages and Employment of Married Women.

As stated above an attempt has been made to discover whether there is any indication of a relation between the rates of wages and the employment of married women in the districts under consideration. From the nature of the material examined such an examination can only discover possibilities, or at most probabilities, not amounting to proof, of a casual connection between the two sets of facts. Examining each trade separately, the woollen and worsted trades, partly owing to circumstances explained in the report, offer no basis for any such inference.

The cotton trade, however, covering a much larger area, and including a considerable number of large towns, concerning which the census affords statistics, discloses several coincidences between different sets of facts supplied by the three statistical returns on which this report is based:—

Those large urban districts, viz., Wigan, Manchester, and Salford, where the greatest proportion of cotton operatives were women and girls, are not the districts where the greatest proportion of women and girls were cotton operatives.

Those large urban districts where the greatest proportion of women and girls were cotton operatives, viz., Blackburn, Burnley, Preston, and Oldham, are districts where the proportion of men and boys who were cotton operatives was highest.

In those large urban districts in which the proportion of men and boys who were cotton operatives was highest, viz., Blackburn, Burnley, and Preston (but not in Oldham), the average wages earned by men and boys in the cotton trade were lower than the average earned in the Stockport, Bolton, Salford, and Manchester districts; Rochdale and Bury being the only large urban districts where the average was not higher than in Burnley and Preston.

In those large urban districts in which the proportion of men and boys who were cotton operatives was highest, and where (with the exception of Rochdale and Bury) the average wage earned by men and boys was lowest, viz., Blackburn, Burnley, and Preston, the average wage earned by women and girls was highest.

In those large urban districts in which the average wage earned by women and girls was highest, viz., Burnley, Blackburn, and Preston, the percentage of female operatives married and widowed was highest (see Table III, p. 528).

In those large urban districts in which the percentage of female operatives married and widowed was highest, viz., Burnley, Blackburn, Preston, and Bury, the estimated average wage of girls under 18 was highest, Rochdale alone of the remaining large urban districts showing a higher average wage for young persons than Preston and Bury.

From these considerations it seems justifiable to infer that the high percentage of women and girls in the mills who were shown to be married or widowed in 1894 in Burnley, Blackburn, and Preston has been due (1) to the higher wages obtainable by girls and by women in this part of the cotton district, and (2) to the lower wages earned by men in this part of the cotton district, both circumstances rendering women reluctant to give up work after marriage.

The question of the relation between infantile mortality and the employment of married women does not come within the scope of this report, but it is hoped that the returns obtained by the Department and given in Part II may be found useful in any examination of vital statistics in this connection.

Conclusion.

The main conclusions to be drawn from the figures collected in the present report may be briefly summed up as follows.

The current view that women's employment is rapidly extending, and that women are replacing men to a considerable extent in industry, is not confirmed. On the whole the proportion of women who are returned as occupied remained practically stationary in the decade 1881-91. The employment of married and of elderly women has, on the whole, diminished, and the employment of women in casual occupations has also declined. There has been an increase in the employment of women and girls under 25 which has, however, been concurrent with a similar extension of the employment of young men and boys.

These results, which appear clearly from the facts adduced in the report, are so contrary to the opinion usually held, that it is worth while examining the causes of the erroneous view which obtains so widely as to the extension of women's employment.

1. *The Employment of Adult Women.*—Two main causes of error have affected current opinions as to the extension in the employment of women. In the first place it has been assumed too hastily that recent tendencies towards the greater employment of middle class women are representative of general changes in the field of employment for women. But this is not the case. The industrial position of women varies with the degree of material prosperity of the men in the class to which they belong. The wives and daughters of men of small producing and earning power have at all times been obliged to be breadwinners. As men's earning power increases, it becomes possible for the family to be supported by the husband's earnings, and the greater comfort thus obtained in the home creates a general feeling that the wife at least should abandon bread-winning. With increasing prosperity and a rising standard of comfort the services of daughters can also be retained in the home. In England during the last hundred years the great increase in productive power through the introduction of machinery has largely increased the number of men able to support their daughters, while the need for the services of the latter at home has decreased. In the middle class, therefore, a high standard of comfort, a smaller field for domestic usefulness, a diminished probability of marriage, apprehension with regard to the future, have all combined to encourage the entrance into the labour market of middle class girls.

But at the same time a converse movement has been going on among the less prosperous classes, by whom the benefit to the family to be derived from the employment of women at home, rather than as wage earners, is only gradually being realised.

The statistics in this report show that the total increase in the employment of women and girls as compared with population was very slight during the decade under review. In 1881 in every 100 women and girls above 10 years of age 34·05 were returned as occupied, and in 1891 34·42 were thus returned, a merely fractional increase. The proportion above 45 years of age returned as occupied shows a decrease, the only industries showing an increase being of a domestic or semi-domestic character. Between the ages of 25 and 45 there is a very slight increase in employment, but this increase shows itself almost entirely in occupations employing middle class women or of a domestic or semi-domestic nature, with the exception of tailoring all the factory and workshop trades, as well as occupations giving merely casual employment, show a decrease. It is a striking fact that although the number of unmarried women between 25 and 45 showed an increase of 25 per 1,000, that of occupied women of that age has only increased by 6 per 1,000, the considerable increase in the number of single women employed as wage earners covering a decline in the employment of married women in the working classes.

Briefly, then, the employment of married women has decreased, casual employment has diminished, and the slight increase in the employment of women and girls generally is due to the increased number of young women and girls under 25 with definite occupations, and to the increased employment of middle class women.

2. *Competition of Men and Women.*—The second cause of error alluded to in the preceding section is the application of an unscientific method of statistical comparison. In comparing the growth of small groups of persons with that of large groups of persons, it is too frequently forgotten that an increase of 100 per cent. on the former may, relatively to population, be less than an increase of 1 per cent. on the latter. Of the males above 10 years of age, 83 per cent. were occupied in 1881 and also in 1891; of the females above 10 years of age, only 34 per cent. were returned as occupied in either of those years. The maximum possible increase of occupied males, relatively to population, including the aged and infirm, is therefore only 20 per cent. of the present number; the maximum possible increase of occupied females on the same supposition is 194 per cent. of the present number; in other words there were only 17 males in every 100 who could possibly be added to the ranks of the occupied, whereas there were 66 females in every 100 upon which to draw for an increase of wage earners, and yet in 1891 this available surplus had not been diminished by 1 in the 66. No fact comes out more clearly in this report than that the occupations in which women and girls have been employed on work hitherto done by men and boys are those in which the employment of the latter has increased at an abnormal rate. A normal increase in the numbers employed in any industry would leave the ratio to population unchanged. In 1881 in every 100,000 males above 10 years of age, 1,884 were returned as commercial clerks; had the employment of males as clerks increased at a normal rate, the returns in 1891 would have been still 1,884 per 100,000; in reality the increase was so abnormal that in 1891 the ratio had risen to 2,166 per 100,000, an increase of 282. The increase per 100,000 females was only 96. In the civil service the number of males showed an increase of 58 per 100,000, whereas the number of females only increased by 43. In the printing trades the number of males increased by 140 per 100,000, the number of females by 17 only.

In the textile trades the employment of men and boys gained distinctly relatively to women and girls. In the boot and shoe trade, in which the employment of female labour has increased relatively to the female population, while the employment of male labour has diminished relatively to the male population, the cause is to be found in the increased tendency in that trade towards the employment of younger persons of both sexes. The increase in the employment of men and boys under 25 is greater than the increase in the employment of women and girls under that age, while the decline in the employment of women above that age, is only less than that of men because hardly any women above that age were in the trade. Even in the tailoring trade, where the proportion of women and girls employed has increased at the rate of 25 per 10,000, the employment of men and boys has decreased by only 3 per 10,000, and this decrease is again due to a decrease in the number of elderly men employed. In both trades the change from the domestic system to the factory system has been adverse to the employment of elderly persons and favourable to the employment of the young, whether youths or girls.

It must be noted also that there is not a single case of absolute decrease in numbers of males employed in any groups which does not also show an absolute decrease in the numbers of females employed; and even in the tailoring trade, in which women and girls have made the greatest advance, all that is indicated by the facts is that the increase in the employment of men and boys has not quite kept pace with the increase in population.

The conclusions to be drawn from the statistics of married women in mills, and from the statistics of wages, are of less general application. To establish a tendency in one direction or another, statistics collected on a uniform method at intervals are necessary. The value of the report as a whole will be more apparent when a sufficient period of time has elapsed to make it possible to establish an exact comparison by obtaining such statistics over the same area a second time.

Finally, it should be always remembered that the questions which have to be considered in connection with the employment of women can very rarely be answered by reference to economic or industrial conditions alone. Social conditions are generally of primary importance. The prominence that has here been given to statistics of employment of married women is due to the fact that the great majority of women incur the responsibilities of married life, and that the industrial position of all women is affected by the probability that their term of service may be short or intermittent from this cause. Economic advantage must frequently be balanced with social disadvantage, and there is a general consensus of opinion that the effect on the life of the family must be the test of the goodness or badness of economic conditions so far as women are concerned.

Table I.—*Showing, for the Whole of England and Wales, the Number of Females and Males per 10,000 of each Sex respectively above* 10 *Years of Age Engaged in Occupations Employing upwards of* 1 *per Cent. of Occupied Females in either* 1891 *or* 1881, *according to the Censuses of those Years, with the Decennial Increases or Decreases.*

Occupations.	Per 10,000 Females of and above 10 Years.				Per 10,000 Males of and above 10 Years.			
	1891.	1881.	Increase.	Decrease.	1891.	1881.	Increase.	Decrease.
Occupations employing upwards of 1 per cent. of occupied females in 1891 or 1881—								
Domestic—indoor servant	1,209	1,231	—	*22*	55	60	—	*5*
Milliner, dressmaker, staymaker	363	358	5	—	4	3	1	—
Cotton, cotton goods manufacture	290	303	—	*13*	201	199	2	—
Washing and bathing service	162	177	—	*15*	7	4	3	—
Schoolmaster, teacher, professor, lecturer	126	123	3	—	48	49	—	*1*
Charwoman	92	92	—	—	—	—	—	—
Tailor	78	53	25	—	113	116	—	*3*
Worsted, stuff, manufacture	61	64	—	*3*	38	38	—	—
Woollen cloth manufacture	54	59	—	*5*	58	62	—	*4*
Sick nurse, midwife, invalid attendant, and subordinate medical service	47	38*	9	—	4	2*	2	—
Shirt maker, seamstress	46	82	—	*36*†	2	1	1	—
Shoe, boot, patten, clog maker‡	40	36	4	—	191	202	—	*11*
Draper, linen draper, mercer	40	29	11	—	57	58	—	*1*
Grocer: tea, coffee, chocolate—maker, dealer	40	26	14	—	128	111	17	—
Lodging, boarding house keeper	39	33	6	—	6	5	1	—
Inn, hotel servant	39	26	13	—	44	38	6	—
Silk, satin, velvet, ribbon manufacture	28	41	—	*13*†	15	20	—	*5*†
Agricultural labourer, farm servant§	21	40	—	*19*†	694	867	—	*173*†
Total for above occupations	2,775	2,811	—	*36*	1,665	1,835	—	*170*
In occupations employing under 1 per cent. of occupied females in 1891 or 1881	667	594	73	—	6,649	6,489	160	—
Total occupied‖ per 10,000 females or males respectively of and above 10 years	3,442	3,405	37	—	8,314	8,324	—	*10*
Total population of and above 10 years of age	11,461,890	9,992,513	1,469,377	..	10,591,967	9,313,666	1,278,301	..

* Excluding 5,992 males and 64 females, who were described as "medical students, assistants."

† An actual decrease as well as a relative one.

‡ The dealers are included in the 1881 figures, but not in the 1891.

§ The male occupations of cottager, horsekeeper, horseman, teamster, and carter are included here.

‖ Students are not here included among the "occupied"

TABLE II.—*Showing, for certain Industrial Towns in England having a high Percentage of Women Employed in the Textile and Clothing Trades, the Minimum Percentages of Married and Widowed Females returned as Occupied, or the Minimum Percentages of Unmarried Females returned as Unoccupied, for all Ages of and above* 10 *Years, of* 20 *and under* 25 *Years, and of* 25 *and under* 45 *Years, according to the Censuses of* 1891 *and* 1881.

Urban Sanitary Districts (Population over 50,000).		All Ages of and above 10 Years.		Of 20 and under 25 Years.		Of 25 and under 45 Years.	
		Minimum Percentage of		Minimum Percentage of		Minimum Percentage of	
		Married and Widowed, Occupied.	Single, Un-occupied.	Married and Widowed, Occupied.	Single, Un-occupied.	Married and Widowed, Occupied.	Single, Un-occupied.
Cheshire and Lancashire—							
Stockport	1891....	9·9	—	29·6	—	28·6	—
	'81....	18·4	—	38·3	—	38·5	—
Bolton	1891....	—	0·4	13·0	—	18·0	—
	'81....	2·2	—	17·2	—	21·0	—
Bury	1891....	6·6	—	30·4	—	30·2	—
	'81....	11·2	—	38·5	—	32·7	—
Salford	1891....	—	12·7	—	1·2	15·4	—
	'81....	—	3·2	9·9	—	20·4	—
Manchester....	1891....	—	8·0	0·3	—	17·6	—
	'81....	1·0	—	7·9	—	22·6	—
Oldham	1891....	2·8	—	25·9	—	24·9	—
	'81....	12·0	—	41·8	—	31·3	—
Rochdale........	1891 ...	8·4	—	23·1	—	26·4	—
	'81....	16·1	—	40·1	—	34·3	—
Burnley	1891....	22·1	—	57·9	—	42·5	—
	'81....	22·1	—	58·3	—	41·9	—
Blackburn	1891....	26·6	—	59·6	—	47·5	—
	'81....	31·6	—	60·4	—	49·8	—
Preston	1891....	18·7	—	47·9	—	39·1	—
	'81...	23·8	—	52·1	—	43·8	—
Yorkshire—							
Huddersfield	1891....	—	13·1	—	6·6	11·0	—
	'81....	—	14·5	—	7·0	11·1	—
Halifax	1891...	—	2·9	—	2·4	12·1	—
	'81....	—	0·9	2·1	—	16·4	—
Bradford	1891...	0·8	—	7·6	—	20·4	—
	'81....	6·5	—	19·8	—	26·6	—
Leeds	1891....	—	17·0	—	3·7	10·5	—
	'81....	—	18·1	—	4·3	11·5	—
Other Counties—							
Leicester	1891....	0·4	—	22·7	—	24·9	—
	'81....	7·3	—	30·6	—	29·4	—
Nottingham	1891....	—	4·2	—	0·1	20·1	—
	'81....	5·7	—	11·6	—	25·7	—
Northampton	1891....	—	15·9	—	1·0	10·8	—
	'81...	—	5·3	4·3	—	18·0	—
Ipswich	1891....	—	17·2	—	5·4	7·2	—
	'81....	—	18·9	—	10·6	7·4	—
Norwich	1891....	—	12·2	—	2·6	14·1	—
	'81...	—	5·4	—	0·5	18·1	—

Table III.—*Showing the Average Wages of Women and Girls (exclusive of Half-Timers) Employed in the Cotton Mills in certain Districts in October*, 1886, *according to Board of Trade Returns; and the Percentage of* (a) *Women and Girls (exclusive of Half-Timers) and* (b) *Women above* 18 *Employed in Cotton Mills returned as Married or Widowed in Labour Department Returns*, 1894.

District.	Average Wages of Women and Girls (Full-Timers), 1886.		Percentage of Women and Girls (Full-Timers) who were Married or Widowed, 1894.	Percentage of Women who were Married or Widowed, 1894.
	s.	*d.*		
Burnley, Colne, Nelson, and Barrowford	18	2	30·9	41·7
[Burnley]	—		33·2	44·7
Darwen, Accrington, and neighbourhood	16	10	28·5	37·5
Blackburn	16	5	32·2	43·1
Preston	15	5	27·9	38·3
Todmorden, Bacup, Haslingden, and neighbourhood	15	3	23·4	31·5
Ashton-under-Lyne, Stalybridge, and neighbourhood	15	–	26·9	36·1
Bury	14	8	26·6	35·6
Oldham and neighbourhood	14	1	23·0	32·1
Stockport „	13	5	23·0	31·0
Rochdale „	13	5	22·6	30·2
Bolton „	12	1	14·4	21·6
Salford, Manchester, and neighbourhood	11	11	18·3	26·3

IV.—*Statistics of Bankruptcies in England and Wales*, 1885-94.

The following table has been drawn up from the Annual Reports to the Board of Trade, and presents a summary of the number of bankruptcies in England and Wales during the first complete ten years since the passing of the Bankruptcy Act, 1883. The table exemplifies the correspondence between the number of bankruptcies and the fluctuations of trade. The movement may be traced in nearly all the more important trades, but is perhaps most accentuated in the case of farmers:—

Principal Trades and Occupations, arranged Alphabetically.	Total Number Gazetted in Years										Total Number in the Ten Years 1885-94.
	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	
Agents, commission and general	112	80	84	71	86	88	62	66	81	62	792
Architects and surveyors	16	20	16	16	17	18	16	19	21	15	174
Bakers	85	104	128	116	127	117	94	118	123	134	1,146
Blacksmiths	22	19	25	22	27	26	20	25	20	21	227
Boot and shoe manufacturers and dealers	151	187	152	150	147	144	137	157	141	110	1,476
Builders	239	255	289	251	239	226	195	238	231	286	2,449
Butchers	48	81	101	134	154	130	116	118	132	118	1,132
Cabinet makers and upholsterers	55	40	53	45	32	27	34	36	37	40	399
Carpenters and joiners	64	70	54	69	75	79	69	62	64	44	650
Carriage, &c., builders	24	25	20	28	19	20	18	27	22	27	230
Carriers, carmen, lightermen, and hauliers	19	30	23	26	32	24	19	39	29	20	261
Chemists, druggists, and chemical manufacturers	23	36	29	45	36	19	31	21	33	25	298
China, glass, earthenware, &c., dealers	18	24	21	29	23	15	17	26	19	15	207
Clerks in holy orders	15	20	16	13	14	14	11	16	17	16	152
Clerks, commercial and general	44	55	44	69	46	61	57	57	56	58	547
Clothiers, outfitters, &c.	28	34	31	34	41	36	32	34	43	40	353
Coal and coke merchants and dealers	54	55	66	57	62	56	54	71	73	66	614
Confectioners	33	38	30	53	40	22	25	38	34	35	348
Contractors	19	22	21	21	17	17	18	21	18	18	192
Corn, flour, seed, hay and straw merchants and dealers	54	52	52	47	38	34	45	50	48	48	468
Curriers, tanners, and leather merchants	25	19	19	—	18	14	17	12	13	16	153
Dairymen, cowkeepers, &c.	19	20	35	36	25	19	29	33	42	36	294
Decorators, painters, plumbers, &c.	88	100	87	101	85	84	84	78	101	98	906
Drapers, haberdashers, &c.	123	125	119	112	117	78	104	93	105	104	1,080
Engineers and founders, &c.	35	51	31	23	33	17	30	35	41	45	341
Farmers	206	332	295	282	247	172	187	236	282	280	2,519
Fishmongers, poulterers, and merchants	29	50	39	44	52	40	36	35	42	52	419
Furniture dealers and makers	35	30	30	30	25	22	34	27	36	35	304
Gardeners, florists, and nurserymen	17	16	30	32	28	20	20	25	31	17	236

Principal Trades and Occupations, arranged Alphabetically.	Total Number Gazetted in Years										Total Number in the Ten Years 1885-94.
	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	
General dealers	22	29	38	30	29	23	30	30	35	37	303
Greengrocers, fruiterers, &c.	36	51	37	42	53	50	42	58	82	56	507
Grocers, &c.	317	365	337	350	335	258	292	334	331	283	3,202
Ironmongers	48	46	52	37	38	27	27	28	37	37	377
Jewellers, watchmakers, importers, silversmiths, &c.	88	69	90	54	39	40	42	49	69	72	612
Lodging house keepers	17	20	23	18	23	27	31	21	29	33	242
Merchants	53	33	42	37	30	31	44	49	35	39	393
Millers	12	21	30	20	30	21	21	28	18	20	221
Milliners and dressmakers	27	29	19	15	15	25	27	20	25	29	231
Printers and publishers	31	33	34	18	22	25	28	23	16	25	255
Provision merchants, &c.	52	44	44	72	61	49	53	69	58	38	540
Publicans and hotel keepers, &c.	285	331	342	321	273	240	267	323	329	352	3,063
Saddlers and harness makers	30	29	29	38	29	23	26	22	38	35	299
Schoolmasters and schoolmistresses	18	25	17	25	32	13	23	12	23	24	212
Solicitors	41	46	34	46	53	46	37	46	40	32	421
Stone, marble, and monumental masons	21	24	31	19	20	19	12	12	14	7	179
Tailors, &c.	125	132	91	81	96	80	83	96	116	104	1,004
Timber merchants	28	29	22	12	19	24	23	21	17	34	229
Tobacconists, &c.	34	23	42	42	38	28	29	37	53	37	363
Travellers, commercial, &c.	20	36	25	45	44	32	36	38	33	31	340
Wine and spirit merchants, &c.	36	21	19	23	18	19	33	21	19	21	230
	3,041	3,426	3,338	3,301	3,199	2,739	2,817	3,150	3,352	3,227	31,590
All other trades	1,292	1,390	1,501	1,525	1,321	1,272	1,399	1,485	1,522	1,535	14,242
Total number of all trades	4,333	4,816	4,839	4,826	4,520	4,011	4,216	4,635	4,874	4,762	45,832

V.—*Notes on Economical and Statistical Works.*

Life and Labour of the People in London. Edited by Charles Booth. Vols. v and vi. Population Classified by Trades. 8vo. London: Macmillan and Co., 1895.

Two years ago Mr. Booth made the preliminary results of an inquiry into the condition of London based on the 1891 census the subject of his Presidential Address to the Royal Statistical Society. The volumes now published contain a part of the elaborated results of the same inquiry which has been carried on by Mr. Booth and his able coadjutors. The Presidential address referred to will convey a better idea of the mode of treatment and the contents of these volumes than could be easily conveyed by any other means than a study of the books themselves. Students of the earlier volumes of the series will eagerly welcome these additions to it, and will heartily echo the hope that the two final volumes may not be delayed more than six months.

The descriptions of the conditions under which work is carried on in the trades dealt with give a singularly lucid and interesting picture of the workshops, etc., concerned, and the diagrammatic representations of the age distribution of the male workers in different groups of industries appeal most forcibly to the eye.

The interest and value of the material here collected, great as it is otherwise, is increased by the addition of comparisons of the records of wages obtained specially by Mr. Booth, with the returns to the Board of Trade in 1886, only a portion of which were published. We now obtain some of the figures then collected, so far as they relate to the same groups of workers as those which were privately obtained for Mr. Booth's inquiry.

It should be added that the possessors of the earlier edition of *Life and Labour of the People* will find that these new volumes are supplementary to those they already possess, and not, as were vols. i to iv of the present edition, mainly a reproduction and rearrangement of the earlier edition.

History of Monetary Systems. By Alexander Del Mar, M.E. Pp. xxxix + 508. 8vo. London: Effingham Wilson, 1895.

Once more has Mr. Del Mar given to the world a volume containing results of his labours in monetary history and science. He takes a very wide survey, ranging from ancient India, Persia, Greece, and Rome, to Argentina and its modern troubles. The first 200 pages and some parts of what follows deal with times earlier than the Saxon heptarchy.

The more interesting stages in monetary history to the Englishman of to-day are probably those which have occurred during the last five hundred years or less. In regard to England, not much is told of this period. Henry VIII's degradation of the currency is but casually referred to, Elizabeth's restoration of the coinage is just mentioned (both in the chapter on the Netherlands), and the only other event later than the fourteenth century in English currency-history which finds a place in the body of the work is the

Act of 1666, the provisions of which are vigorously condemned, without being explained.

In regard to Germany, the Netherlands, and the Scandinavian countries, more recent events are dealt with with some fulness.

The English reader has no difficulty in the evaluation of foreign weights, since the equivalent in English grains is given in every case. It can hardly be said that the arrangement of the material in other respects is equally free from confusion, or that the relative importance of different parts of the subject is kept in view.

The last chapter but one devotes 55 pages to Argentina, of which the first two-thirds contain the political history for the most part, material which in this case is certainly not required for the financial history which follows. Mr. Del Mar does not view events in Argentina through glasses tinted in the smallest degree with rose-colour.

The intrusion of much irrelevant historical matter is not confined to this chapter. In chapter xvi (among others) there is also a considerable amount of like material, some parts of which would hardly be accepted by modern Scandinavian scholars as resting on the most certain foundations. It will probably also be news to the Danes and their neighbours that a gold piece of four kroner has a place in their currency.

We need not state afresh the author's views on the subject of money. He would hardly be a welcome ally to either monometallist or bimetallist. His solution of currency difficulties appears to be the universal application of the present Indian policy, that of coining on Government account alone.

The appendices contain statistics of the ratio of silver to gold, a table of bank suspensions in the last two hundred years, and a statement of the monetary changes of 1865-73.

England's Treasure by Forraign Trade. By Thomas Mun, 1664. Pp. xvi + 119. Sm. 8vo. London: Macmillan and Co., 1895. 3s.

This new volume of the series of "Economic Classics" which Messrs. Macmillan are publishing, is in many respects of greater interest than the three which have preceded it. It is a reprint of the first edition of Mun's treatise, and, as we learn from the introductory note of Professor Ashley, this work has only been once reprinted in the present century, viz., in the volume of *Tracts on Commerce*, published in 1856 by the Political Economy Club. After more than two centuries, some of the arguments of this tract in favour of increased freedom from restriction in commercial matters might be studied with advantage by many of those who hanker after a renewal of State interference with foreign trade.

The original title page and the license are reproduced in fac-simile, while an attempt, not particularly successful, to reproduce the original appearance of the dedicatory letter and the address of the author to his son, without specially prepared type and paper, has also been made. The original spelling has been retained, which is doubly fortunate for English readers, since the book has been printed in America. The cover also differs from the uniform in which the companion volumes have appeared, and it is as well that a binding so aggressively modern has not been employed in this case.

The Industries of Russia. Vols. i and ii, Manufactures and Trade. Vol. iii, Agriculture and Forestry. Vol. iv, Mining and Metallurgy. Vol. v, Siberia and the Great Siberian Railway. 8vo. St. Petersburg, 1893.

In connection with the Chicago Exhibition, the Russian Ministry of Finance organised an elaborate report on Russian industries, the various sections of which were entrusted to specialists in the departments concerned. The English translation of these reports, edited and supervised by Mr. Crawford, United States Consul-General to Russia, was issued as above stated in five volumes, and constitutes an exceedingly valuable account of the industrial life of the Russian Empire, all the more valuable as it supplies much information hitherto practically, if not absolutely, unavailable.

In addition to numerous statistical tables showing the growth of each department of native industry and the development of trade, a historical account of the earlier conditions of each trade and a description of the methods employed in each occupation, and, in many cases, details concerning the chief industrial establishments, are added. Besides the figures given in the text in regard to wages, cost of production, transport, &c., a table is given towards the end of vol. ii of average wages of the chief classes of workmen engaged in seventy-four different industries.

Diagrams, cartograms, and maps illustrate the statistical material gathered, those in vol. iii being especially profuse and detailed. The whole constitutes a remarkably complete account of the resources of the Empire and the condition and mode of life of its people, containing a wealth of valuable information of an extremely interesting character, not only in regard to the present state of affairs, but also of the various stages of historical development which have preceded it.

The statements in reference to the customs policy of Russia are framed so as to be a plea for the appropriateness of high protection to the needs of this particular case, and to show that success has followed the adoption of this policy. This aspect of the matter may be due to the fact that the report is an official one, and could not but be expected to take the view that what is being done is the best under the circumstances. This same official view may also account to some extent for the extremely favourable view of the conditions of life of the lower classes, including the considerable balance of resources over needs which the quoted figures show for workmen of all grades, in spite of low nominal earnings.

These reports should be read with at least as great interest in England as in the country for whose benefit they were prepared.

The Science of Finance. By Gustav Cohn. Translated by T. B. Veblen. Pp. xi + 800. 8vo. Chicago: The University of Chicago Press, 1895. $3·50.

This inaugural volume of the series of *Economic Studies of the*

University of Chicago certainly sets a high standard for its successors in regard to the interest of the work itself. The reputation of Professor Cohn's *System der Finanzwissenschaft* is so great that we might almost wonder that it should have been left so long untranslated into English. Perhaps we should find the cause in the lack of interest which the subject has evoked among English-speaking races, unaccountable as that fact is in itself. The awakening of interest in public finance, which is evidenced by the appearance of Professor Bastable's work and the exhaustion of his first edition, and again by this translation, is a healthy sign.

The third book of the German original has not been translated, the American editor rightly judging that the account there contained of German fiscal institutions in 1889 was of comparatively minor interest to the readers of his English edition now. The retention of the original numbering of the sections, notwithstanding this omission, is also well advised.

References in the introduction to certain discussions in another part of Professor Cohn's general systematic treatment of political economy lead the reader to wish that some of the sections to which reference is made could have been taken from their place and prefixed to the present volume. Having regard to the difficulty of choice, that may be asking too much.

The translation appears to be well executed, although here and there the fact that it *is* a translation from the German makes itself somewhat too plain. Some of the renderings too strike one as not English, and, if they be American, we can only hope that they will never become English.

These, however, are quite minor blemishes, and the translator himself, and the University of Chicago with which the publication of the work is identified, deserve the esteem of students of economics in this country, in that they have conferred a benefit on many to whom this great work has hitherto been perforce unknown, on account of the language in which it was written.

Histoire économique de la propriété, des salaires, des denrées et de tous les prix en général depuis l'an 1200 *jusqu'en l'an* 1800. Par Le Vicomte G. d'Avenel. 2 vols., la. 8vo. Paris: Imprimerie Nationale, 1894.

This is a work in two large octavo volumes, in all more than 1,600 pages, of which some 500 comprise the history itself, the remainder of vol. i and the whole of vol. ii being devoted to tables of prices, rents, &c., the details on which the text proper rests as foundation. The source of each quotation being given, whether it be derived from public or private records, or from works of earlier writers on similar matters, the reader is able to judge with some accuracy of the weight of each piece of evidence.

The preface to the first volume is by M. Levasseur, who has also prepared an elaborate diagram of the price of corn in France during the seven centuries since the date 1200.

We learn from this preface that the work comprises two essays, to which were awarded the *Prix Rossi* in 1890 and 1892, or rather a portion of the material which gained these prizes, a selection from the four quarto volumes of text and eight folio volumes of prices having been made. The burden of publication has been borne by the *Académie des Sciences morales et politiques.*

The history is presented in a clear and interesting form, and it is not necessary to say more here than that it presents the general results attained in regard to the prices of the precious metals, of food, of land, of houses, &c., and also deals with rates of interest on different classes of investments. There is also a careful treatment of the relation of the cultivators of the soil to their lords, as well as of their material condition.

In the chapters on the history of the price of the precious metals, and the history of money, the author explains how he has arrived at the conclusions he enumerates. He gives us the metallic equivalents of the confusing variety of ancient monetary units which appear in his records in modern French money, or rather in francs containing 4½ grammes of fine silver each. Combining with this an estimate of the comparative purchasing power of money, he determines the true equivalent of the sums dealt with.

One short table is of sufficient interest to warrant us in quoting it apart from the author's comments and explanations, and this is the table of comparative purchasing powers of equal weights of silver at different epochs, in round numbers.

1201– '25 about	4½	1451–1500 about	6	1651– '75 about	2
'26–1300 „	4	1501– '25 „	5	'76–1700 „	2½
1301– '50 „	3½	'26– '50 „	4	1701– '25 „	2¾
'51– '75 „	3	'51– '75 „	3	'26– '50 „	3
'76–1400 „	4	'76–1600 „	2½	'51– '75 „	2½
1401– '25 „	4¼	1601– '25 „	3	'76– '90 „	2
'26– '50 „	4½	'26– '50 „	2½	1890 „	1

Comparison of these results for France with those obtained by Thorold Rogers and others for England will be interesting and instructive.

The second volume concludes with a series of summary tables, bringing together the results as to prices of various commodities throughout the period dealt with.

The publication of such a work as this cannot fail to be of great utility, and those whose interests lie in the direction of the history of prices will find both text and tables very helpful.

To attempt to pick out the points of greatest interest would be vain and delusive, but one further conclusion of our author is expressed so clearly, and insisted on so forcibly, that we may regard it as being, in his view, important, and it will serve to show how he applies the results at which he has arrived with so much labour.

We find it remarked that an income of 1,000 livres nominal would, owing to the depreciation of the *livre*, have lost 96 per cent. of its value in the six centuries, and that 75 per cent. of what was left must be deducted owing to the fall in the purchasing power of money since the beginning of the thirteenth century.

Further, if instead of an income of 1,000 livres, we were dealing with a sum to be let at interest, the revenue obtained from it would suffer a further diminution proportional to the difference between 10 per cent. and the current rate of interest. We must refer to the work itself for the successive steps by which the process thus summarised has proceeded.

The improvement in the position of owners of land is, elsewhere, treated in detail, and is contrasted with the depreciation which money fortunes have undergone.

Arbitrages et Parités. Par Ottomar Haupt. 8th edition, pp. xxi + 919. La. 8vo. Paris, 1894.

The new edition of this well known work of reference presents, in addition to those additions to the tables, &c., contained in it which are ordinarily necessary to bring such a work up to date, further changes rendered necessary by the changed conditions of the monetary systems of the world in regard to silver which recent years have developed so rapidly. Such events as the closure of the Indian mints, the changes in the rate at which the paper and silver currency in Russia is accepted in payment of taxes in lieu of gold, and a number of lesser changes connected more or less directly with these, involve considerable and careful revision of details in a book of this nature.

The information contained in the book is brought down to 1893 in the majority of cases. The addition of so much information in regard to recent changes should form, as the author anticipates, a valuable and attractive feature of the new edition.

Die Lebenskosten Belgischer Arbeiter-Familien früher und jetzt. Von Dr. Ernst Engel. 8vo. Dresden, 1895.

Interesting and instructive as is the study of "workmen's budgets" for any particular date, the comparison of information such as can be obtained from them for epochs separated from each other by a generation or more should afford us knowledge of an exceptionally valuable kind. Of course this will depend on the nature of the material which affords the comparison, and, though there can be no hesitation in saying that the records which Dr. Engel compares in this book leave much to be desired, the lessons to be learnt from them may still be both important and of practical value.

The principal bases of the comparison made by Dr. Engel are the 199 budgets contained in the volume of Ducpetiaux published in 1855, and relating to 1853, and the 188 budgets for April, 1891, of which some account was given in the *Journal* for December, 1892, and to which reference is made in Mr. Higgs' paper in the *Journal* for June, 1893. Some other material is included, *e.g.*, the budgets of ten families given in the report of the *Enquête agricole belge*, 1886; these however do not enter into the principal comparison. The unsatisfactory nature of a calculation for a year based on a single month's income and expenditure, apart from defects in the method of obtaining the budgets of 1891, on which Mr. Higgs has commented, is sufficiently obvious. A lack of comparability between the two groups of families whose expenses are examined may further render the comparison but little instructive. We do not suggest that such a difference actually exists in the case of Dr. Engel's material, but it is difficult to convince oneself that conclusions drawn from so narrow a basis as the records of less than 200 families of working people are necessarily typical of the condition of the whole body of Belgian workmen at either date.

Setting aside such difficulties however, and allowing ourselves to regard the two sets of records as fairly comparable, we are provided by Dr. Engel with a very thorough analysis of the material before him, dividing the families into classes according to income or expenditure, and according to occupation, and presenting the results both in absolute amounts and also in tables showing the proportion of the total expenditure devoted to each of the objects named (food, clothing, &c., &c.). The percentages of incomes derived from the labour of the head of the family, of other members, and from various sources are also given.

Comparing the whole groups of budgets for 1853 and 1891, it appears that the expenditure has increased 93 per cent., a larger fraction of this increased whole being devoted to supplying the physical needs of the family. This increased proportion appears to be chiefly traceable to an increase of rent, but there is no statement as to whether this is due to improved lodging or to higher charges for similar accommodation.

A table is included in which the prices of some of the principal articles of household expenditure are given for 1854 and 1891. From this it would appear that articles such as meat, butter, milk, &c., have become dearer, while bread and coal are cheaper. Dr. Engel sums up with a statement that, with nearly equal prices of provisions, the standard of life of Belgian workmen is considerably higher than before. If the quoted rates for 1854 were as reliable as those for 1891, we should doubt the "nearly equal" prices. The means of instituting a comparison between the quantities of those commodities the proportionate expenditure on which has decreased, are not afforded by this table. Other tables are, however, provided showing the amounts of different food commodities consumed, and these show an increase of the total weight of food consumed per head.

The fact that in 1853 nearly 94 per cent., and that in 1891 more than 96 per cent., of the total expenditure was on physical needs, tends to show both that the budgets are in each case from a class whose resources or dispositions demand that increased means should be devoted to increase of provision for the body, and, if the records can be taken as accurate and typical, that the Belgian workman has ample room for future advance in well-being.

As an appendix Dr. Engel has added a reprint of his paper of 1857, entitled "Die Productions- und Consumtionsverhältnisse des Königreichs Sachsen," which includes an analysis of the budgets given by Ducpetiaux, province by province, and a similar summary of the budgets given by Le Play.

Dr. Engel proposes to extend these comparisons to other countries as time and opportunity permit.

Statistik und Probabilität. Von V. John (Innsbruck) (*Sonderabzug aus Allgemeines Statistisches Archiv.*) 46 pp. 8vo. 1895.

In a monograph of forty-six pages Herr John traces the gradual development of the theory of probability and its application to statistical work. He notices the views of the chief writers who have dealt with the subject during more than two centuries, quoting from their writings in many cases. We observe that he appears to value Professor Edgeworth's work in this department highly, but his list of that author's contributions to the subject is not quite up to date, though elsewhere publications as recent as 1893 are referred to.

Statistical and Economical Articles in Recent Periodicals.

UNITED KINGDOM—

Economic Journal. Vol. v, No. 18, *June,* 1895—

Index Numbers of Prices: *A. Sauerbeck.* The Relation between Local and Central Taxation: *W. H. Smith.* Agricultural Syndicates and Co-operative Societies in France: *C. Gide.* Craftswomen in the *Livre des Métiers: E. Dixon.*

Economic Review. Vol. v, No. 3, *July,* 1895—

Accident Insurance: *H. W. Wolff.* Popular Control [of the Liquor Trade]: *Rev. F. S. M. Bennett.* Some Thoughts of a Workman concerning the plea for a Living Wage: *R. Halstead.* The Factory Children: *A Bradford Manufacturer.* The Stigma of Pauperism: *Edwin Cannan.*

UNITED STATES—

American Statistical Association Publications. Vol. iv, No. 30, *June,* 1895—

Receipts and Expenditures of certain Wage-earners in the Garment Trades: *Miss I. Eaton.* The Negro in the West Indies: *F. L. Hoffman.*

Annals of the American Academy of Political and Social Science. Vol. vi, No. 1, *July,* 1895.

Development of the present Constitution of France: *R. Saleilles.* Ethical Basis of Distribution and its application to Taxation: *T. N. Carver.* The Minimum principle in the Tariff of 1828 and its recent revival: *S. B. Harding.*

Vol. vi, No. 2, *September,* 1895—

Sources of American Federalism: *W. C. Morey.* Amendments to the Italian Constitution: *G. A. Ruiz.* Representation in New England Legislatures: *G. H. Haynes.* Income Tax decisions and Constitutional Construction: *C. G. Tiedeman.*

Journal of Political Economy. Vol. iii, No. 3, *June,* 1895—

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Statistik und Probabilität: *V. John.* Die Gliederung der Bevölkerung nach Gesellschaftsklassen: *H. Westergaard.* Die Zukunft der Statistik (Sozial-Statistik): *G. Fiamingo.* Die Grenzen des gewöhnlichen schriftlichen Verfahrens bei statistischen Ermittlungen, mit besonderer Rücksicht auf die bevorstehende deutsche Berufs- und Gewerbezählung: *G. v. Mayr.* Erfahrungen mit der elektrischen Zählmaschine: *H. Rauchberg.* Zur Organisation der Rückfallstatistik: *G. v. Mayr.* Ueber die Statistik der

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Die neuere volkswirtschaftliche Litteratur Frankreichs: *C. Gide.* Zur Geschichte des Methodenstreites in der politischen Ökonomie: *W. Hasbach.* Die Entwickelung des irischen Pachtwesens von 1700 bis zu den Anfängen der Agrarreform: *M. Jaffé.* Die augsburgische Vermögenssteuer und die Entwickelung der Besitzverhältnisse im 16 Jahrhundert: *J. Hartung.* Die Ergebnisse der deutschen Silberenquete: *W. Lotz* (*continued*). Ein Blick in die gewerkschaftliche Bewegung der englischen Arbeiter und Arbeiterinnen: *Gertrud Dyhrenfurth.* Die sociale Zusammensetzung der Bevölkerung in Österreich nach den Ergebnissen der Volkszählung vom 30 Dezember, 1890: *P. Kollmann.*

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Band ix, Heft 6. 1895—

Die geschichtliche Entwickelung der Münzsysteme: *K. Helfferich.* Bemerkungen über Parallelwährung und Sortengeld: *W. Lexis.* Zur Entstehung der Rittergüter: *G. Below.* Die zweite Lesung des Entwurfes eines Bürgerlichen Gesetzbuches für das Deutsche Reich (*continued*): *Greiff.* Die Konversion der Staatsanleihen in Deutschland: *K. Thiess.*

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Die Berufskrankheiten der Buchdrucker: *G. Heimann.* Das Weimarische Grundbuch: *Burkhardt.* Karl Marx und die Durchschnittsprofitrate: *Mühlpfort.*

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Solon und die Bauernbefreiung in Attika: *G. Adler.* Cesare Beccarias nationalökonomische Schriften: *G. Macchioro.* Zur Biographie des Stifters der Physiokratie, François Quesnay (*continued*): *A. Oncken.* Der erste Ausbau des Systems der Gewerbefreiheit in Preussen. Nach urkundlichem Material dargestellt: *K. von Rohrscheidt.*

Zeitschrift für die gesamte Staatswissenschaft. Heft iv. 1895—

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Die Bewegung der Getreidepreise in Oesterreich: *H. v. Schullern - Schrattenhofen.* Die Selbstmorde in Wien während der Jahre 1854-94: *Bratassevic.*

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La base agronomica della teoria della rendita: *G. Valenti.* La legge del valore secondo la dottrina della utilità limite: *D. Berardi.* I trattati e compendii francesi d' economia politica. Saggio bibliografico: *L. Cossa.*

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VI.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15*th September*, 1895, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

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Comercio Exterior Argentino. Año 1895. No. 85. Importacion y Exportacion de los primeros trimestres de 1894 y 1895. 8vo.	The Director-General of Statistics

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Buenos Ayres (*City*). Monthly Bulletin of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Instituto Geografico Argentino. Boletin del. Tomo xv, Cuadernos 9—12; Tomo xvi, Cuadernos 1 y 2. Maps, 8vo. 1894	The Institute
Austria-Hungary—	
Ackerbau-Ministeriums. Statistisches Jahrbuch für 1894. Heft 1. Statistik der Ernte des Jahres 1894. Diagrams, &c. 8vo	The Ministry of Agriculture
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo. Handel. Statistische Übersichten betreffend den auswärtigen, des österr.-ungar. Zollgebiets. (Current monthly numbers, and for the first half of 1895)	The Statistical Department, Ministry of Commerce
Oesterreichisches Statistisches Handbuch für 1894. 8vo	The Central Statistical Commission
Protokoll der Secretäre der Handels- und Gewerbekammern . . . betreffend die Gewerbecataster und den nächsten statistischen Quinquennalbericht dieser Kammern. La. 8vo. 1895	The Statistical Department, Ministry of Commerce
Rechtspflege. Statistische Nachweisungen über das Civilgerichtliche Depositenwesen, &c., im Jahre 1892. Ergebnisse des Concursverfahrens . . . im Jahre 1891. Fol. Unterrichts-Anstalten. Statistik der, für das Jahr 1891-92. Fol. Volkszählung, 31st December, 1890. Ergebnisse der. Heft 5, Ausländer in den im Reichsrathe. . . . 4to. Statistische Monatschrift. (Current numbers)	The Central Statistical Commission
Hungary. Ungarisches Statistisches Jarhbuch. Neue Folge II. 1894. 8vo.	The Royal Hungarian Statistical Bureau
Brünn. Die Arbeiter der Brünner Maschinen-Industrie. Untersuchungen über ihre Arbeits- und Lohn-verhältnisse. 4to. 1895	The Chamber of Commerce
Prague. Bulletins hebdomadaires et trimestriel de la ville de Prague et des communes - faubourgs. (Current numbers)	The Municipal Statistical Bureau
Belgium—	
Annales des Travaux Publics de Belgique. Tome lii, Cahier 1, et Tables générales des cinquante premiers volumes, 1841-93. 8vo. 1895	The Administration of Mines
Commercial, Tableaux du Mouvement, avec les Pays Etrangers. (Current monthly numbers)	The Bureau of General Statistics

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Bulgaria—	
Ecoles bulgares dans la Turquie d'Europe (la Macédoine et le vilayet d'Andrinople). Statistique des, pour 1893-94. 4to	The Statistical Bureau
Mouvement commercial de la Bulgarie avec les pays étrangers. Mouvement de la navigation par ports. Prix moyens dans les principales villes (current monthly numbers). La. 8vo	
Recensement du betail, des oiseaux de basse-cour et des chars, au 1^er^ Janvier, 1893. Diagrams, &c. 4to. (In Russian)	
Recensement des habitations qui servent de demeure au 1^er^ Janvier, 1893. Diagrams, &c. 4to. (In Russian)	
China—	
Customs Gazette. No. 105, Jan.—Mar., 1895	Sir Robert Hart, Bart., G.C.M.G.
Medical Reports for year ended 30th Sept., 1892	
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Denmark—	
Nationalökonomisk Tidskrift, 1895. (Current numbers)	The Danish Political Economy Society
Egypt—	
Bulletin mensuel du Commerce extérieur de l'Egypte. (Current numbers.) La. 8vo.	The Director-General of Customs
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Douanes. Rapport du Directeur Général sur l'Exercice 1894. 8vo. Diagram	
Dette Publique. Compte-Rendu des Travaux de la Commission de la, pendant 1894. 19^e^ année. 8vo.	Alonzo Money, Esq., C.B., Cairo
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Institut Egyptien. Bulletin. (Current numbers.) 8vo.	The Institute
Egyptian Statistical Tableau for 1894. Sheet	Messrs. R. J. Moss and Co.
France—	
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Annuaire Statistique de la France, 15^e^ volume, 1892-93-94. 8vo	The French Labour Department
Cabotage. Tableau général des mouvements du, pendant 1894	The Director-General of Customs
Chemins de Fer Français. Statistique des, au 31 Dec., 1893. Documents divers. 1^ere^ Partie, Intérêt général. 4to.	The Ministry of Public Works

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Société de Statistique de Paris, Journal. (Current monthly numbers)	The Society
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Handel des deutschen Zollgebiets. Monatliche Nachweise über den Auswärtigen. (Current numbers)	The Imperial Statistical Bureau
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Sterblichkeit nach Todesursachen und Altersklassen der Gestorbenen..., 1893. Fol.	The Royal Prussian Statistical Bureau

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Kalender und Statistisches Jahrbuch für 1896. Sm. 8vo Zeitschrift des K. Sächsischen Statistischen Bureaus. Hefte 3 und 4. 1894	The Statistical Bureau of Saxony
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Annali di Statistica. Statistica Industriale. Fasc. 56, maps. 1895 Bollettino di Legislazione e Statistica Doganale e Commerciale. (Current monthly numbers) Bollettino di notizie sul Credito e la Previdenza. (Current numbers) Bollettino settimanale dei Prezzi di alcuni dei principali Prodotti Agraria e del Pane. (Current numbers) Bollettino Sanitario, Direzione della Sanita Pubblica. (Current monthly numbers)	The Director-General of Statistics

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Elezioni generali politiche, 26 Maggio e 2 Giugno, 1895. Statistica delle	
Giudiziaria Penale. Statistica, per l'anno 1893. 8vo.	
Movimento Commerciale del Regno nell' anno 1894. Diagrams, fol.	
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Agricultural and Commercial Department. Tenth Statistical Report (in Japanese). 8vo. 1895	The Department
Tokio-Fu. Weekly and monthly reports of Births, Marriages, and Deaths. (Current numbers)	The Governor of Tokio-Fu
Mexico—	
Estadistica Fiscal. Datos relativos. (Current numbers)	The Statistical Bureau
Latest correspondence between Mexico and Guatemala, with the final arrangement. Translated from the Spanish official edition, 1895. 68 pp., 8vo.	His Excellency the Mexican Minister
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Scheepvaart. Statistiek der, 1894. Gedeelte 1. 4to. 1895	Dr. G. de Bosch Kemper
Staten van de In-, Uit-, en Doorgevoerde voornaamste Handelsartikelen. (Current monthly numbers)	Dr. W. Verkerk Pistorius
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Norges officielle Statistik. Tredie Række:—	
209. Hospices d'aliénés, 1893	The Central Statistical Bureau
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Trade Returns for 1893. 2 vols., 4to. [In Russian]	
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Comercio de Cabotaje. Estadistica general del, en 1893. Fol.	The Director-General of Customs
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Commerce de la Suisse. Statistique du. Importation et Exportation de Produits Agricoles. Sept., 1894—April, 1895. 2 sheets	The Bureau of Trade Statistics
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Aargau. Aargauische Statistische Mitteilungen für 1893. Heft 2, Kreditinstitute, 1892-94. Fol.	The Statistical Bureau
Geneva. Bibliothèque Publique. Compte-rendu pour l'année 1894. 8vo.	The Library

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Economist, The	,,	,,
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Kew Bulletin. (Current numbers.)
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Vol. LVIII.] [Part IV.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

DECEMBER, 1895.

Gold *and* Silver *and the* Money *of the* World.

By Lesley C. Probyn.

[Read before the Royal Statistical Society, 19th November, 1895.
Sir Rawson W. Rawson, K.C.M.G., C.B., in the Chair.]

It is necessary for the proper consideration of monetary problems that the statistical position of money in the world should be clearly presented. A good deal has been done in this direction by Mr. Ottomar Haupt in his admirable work "Arbitrages et Parités," to which I am much indebted. But, so far as I know, the only attempt that has been made to bring together in one view the moneys of the world generally is the statement published in the Mint Report of the United States, which was reproduced with some alterations as an appendix to the paper read by Mr. Barr Robertson before this Society last June. But this statement is not only professedly an incomplete account of the world's money, but, as pointed out by Mr. Robertson, its classification is defective; and it takes no account of the difference between the nominal and real values of the several monetary units. Thus, for instance, countries whose monetary systems are so divergent as the United Kingdom and Portugal, as the United States of America and India, as Mexico and Russia, are described as under the same monetary systems—gold, gold and silver, and silver, respectively, while the Greek drachma is taken as of the same value as the French franc. Mr. J. H. Norman has lately, in the "Economist," given a much more correct classification. But that great misapprehension prevails on the subject is shown by the recent statement in Parliament of a gentleman, who has given great attention to the matter, that silver still formed the standard of value of two-thirds of the population of the world.

It is as a very preliminary step towards supplying this important want that I have prepared the present paper. I have neither the leisure nor the ability to present the matter in the way in which it should be presented to the Fellows of this Society. I only hope that my action may lead to attention being given to the subject, and that before long we may have some more authoritative statement of the various monetary systems of the world, in which the omissions from this paper may have been supplied and its imperfections removed.

The classification which I have adopted is based on the manner in which values appear to be measured in the several countries. I have endeavoured to arrange all the countries of the world which have any monetary system at all, according as values are measured in gold, in silver, in inconvertible paper, and in monopoly rupees respectively, and I have prepared separate abstracts for each of these classes (see Appendices I to IV).

I have assumed the population of the world to be 1,500 millions, adding 20 millions to the estimate given by H. Wagner and A. Supan (*Journal* for December, 1891). The figures are generally for the 31st December, 1894. The gold and silver in the banks has been taken as far as possible from the "Bulletin de Statistique "et de Legislation comparée," Paris, and, with the amount of paper in circulation, may be accepted as fairly reliable.

The amount of coin in circulation can of course only be an estimate. I have very largely availed myself of the estimates made by Mr. Haupt as to this amount, and I may state that in the course of my inquiry I received unsolicited testimony as to the reliability of the source from which he obtained some of his figures.

The amount of money in the different abstracts has been shown in £'s, that in the silver countries being turned into sterling at the rate of 31*d.* per ounce, and the inconvertible paper and rupee money at about present prices. It has also been thus distributed in £'s and decimals of 1*l.* per head of population.

The total money in circulation in the world amounts, according to these estimates, to 1,780,582,000*l.*, or to 1·187*l.* per head of population. The bulk of the 688,627,000*l.* shown as State and bank holdings consists of metallic reserves against the paper in circulation.

Appendix.	Classification of Countries.	Population.		Gold in £'s. [000's omitted.]		Silver, Nickel, and Copper in £'s. [000's omitted.]		(e). Paper in Circulation in £'s. [000's omitted.]	Total in £'s. [000's omitted.]	
		Total. [000's omitted.]	Percentage to Population of Whole World.	(a). State and Bank Holdings.	(b). In Circulation.	(c). State and Bank Holdings.	(d). In Circulation.		(a) + (c). State and Bank Holdings.	(b) + (d) + (e). In Circulation.
I	Gold	359,506,	23·97	307,812,	374,498,	192,271,	241,017,	625,778,	500,083,	1,241,293,
II	Silver	509,742,	33·98	16,528,	—	13,616,	107,422,	26,417,	30,144,	133,839,
III	Inconvertible paper	205,828,	13·72	122,575,	—	13,431,	40,735,	259,809,	186,006,	300,544,
IV	Monopoly rupees	296,264,	19·75	—	—	13,856,	86,038,	18,868,	13,856,	104,906,
	Without monetary system	128,660,	8·58	—	—	—	—	—	—	—
	Total	1,500,000,	100·00	446,915,	374,498,	233,372,	475,212,	930,872,	688,627,	1,780,582,

I will now proceed to the examination of each of these tables in detail. The first, and the most important, accounting as it does for about 70 per cent. of the total circulation of the world, for 82 per cent. of the total gold used as money and reserves, although only for 24 per cent. of the population, refers to countries whose values are measured in gold. These countries have been divided into three sections, each of which must be separately considered.

(*a*) Where the principal currency is gold or paper exchangeable into gold.

The principal country in this group is the United Kingdom, with the currency system of which we are all familiar. I will, however, dwell for a moment on the nature of our large representative or token currency. Although by careful management a token currency can and does exist side by side with a currency of the metal which is the recognised measure of value, each token is in effect a promise by the authority which issues it to deliver, if need be, the portion of the standard metal which it represents. Let me illustrate this. It is well known that with the present gold price of silver there is a strong inducement for the illicit coinage of full value silver tokens. Should the State by its police arrangements be unable to prevent it, and should there in consequence be such a plethora of silver coins in circulation that they become at a discount, the State would be bound to withdraw the surplusage, to redeem the promise to give gold, which in effect it makes, when it issues token coins.

In the United Kingdom, where they form but a small portion of the whole circulation, the matter may be of comparatively small consequence. But our token coins constitute practically the only legal full tender money of our West Indian possessions; and the danger there is greater. It is known that illicit fabrication of coins of full weight and fineness has already taken place for the Dutch East Indian possessions. I venture to think that the time has arrived when the silver in our token coins should be rated at something considerably nearer its real value than 66*d.* an oz. The change could be gradually made, the higher coins being first dealt with.

I would draw attention to the very large amount of gold held by the banks in Australia; owing, I have no doubt, to the number of centres over which it is distributed, and their distance from each other. On the other hand Canada represents the remarkable feature of a country with a larger population and a larger area which is able to maintain gold as the measure of value with a total stock of that metal about one-sixth of that held by Australasia. I thought it right to keep Newfoundland in its place as a gold country, notwithstanding the disastrous state of her financial and banking arrangements. I have shown British Honduras separately, because, though the country is comparatively of such small importance, the change which has recently been made in its monetary position gives it a special interest. Up to last year it was a silver country, the legal and recognised measure of value being the silver dollar of the neighbouring Central American States. The bold step of changing the measure of value to gold was adopted by the government, the silver dollars in circulation being called in and being replaced by paper exchangeable into gold dollars (one gold dollar being given for two silver ones), and by specially struck representative silver fractional coins; and so far the measure has been successful. The monthly returns published in the "Gazette" show that the amount of paper varies up and down apparently with the necessities of trade; and the change, owing to the saving caused by the excess of the nominal over the intrinsic value of the new coins, was carried out without any direct expense, but, in fact, with a small profit. It is right to mention, however, that when the change was first introduced there was a good deal of trouble among the ignorant population, who naturally did not understand the number of dollars they received being reduced by one half, and it was necessary to move troops to the colony, which probably cost more than the profit derived from the coinage.

The only other countries in this group calling for special notice are the small State of Uruguay, which occupies a unique position in South America, and which is said to have the very large gold circulation of 5½*l.* per head, and of Egypt, in which the circulation is said to be 4*l.* One is inclined to think these figures must be excessive. I hope their mention may lead to a better estimate being forthcoming.

The countries which form section (*b*) of my table, from a monetary point of view, form the most important of the groups with which I am dealing.

The case of the United States of America is just now of special interest. The figures work out a circulation of 4¾*l.* per head of population, compared with 2¾*l.* in the United Kingdom—the paper circulation alone being more than 3⅛*l.* per head. The following tables show the details of this paper circulation, and also how the metallic figures have been arrived at.

Gold in Bank and State Reserves.

	$		£
Gold in Treasury 31st December, 1894	139,606,000		
Gold and gold clearing house certificates held by national banks 19th December, 1894	146,117,000		
Total gold in bank and State reserves	285,723,000	=	58,311,000

Gold in Circulation.

Gold outside Treasury on 1st November, 1894 (See "Mint Report," p. 42.)	500,181,000		
Deduct gold held by national banks	146,117,000		
Total gold in circulation	354,064,000	=	72,258,000

Silver in Bank and State Reserves.

	$		£
Silver dollars in Treasury 31st December, 1894	364,588,000		
,, bullion 31st December, 1894	125,014,000		
Subsidiary money ,,	14,484,000		
Silver coins held by national banks 19th December, 1894	12,505,000		
Total silver in bank and State reserves	516,591,000	=	105,430,000

Silver, Nickel, and Copper in Circulation.

Silver, &c., held outside Treasury on 1st November, 1894 (See "Mint Report," pp. 12 and 42.)	141,018,000		
Deduct silver held by national banks	12,505,000		
Total silver, &c., in circulation	128,513,000	=	26,227,000

Paper in Circulation on 31st December, 1894.

	$		£
United States notes, &c.	383,247,000		
National bank notes	207,473,000		
Gold certificates	53,362,000		
Silver ,,	331,078,000		
Deposit notes	47,005,000		
Treasury notes, Sherman's Act	122,454,000		
Total paper in circulation	1,144,619,000	=	233,595,000

There are two points in connection with the United States' money to which I will draw attention. First as to the composition of the reserves, the main object of which is to secure the various kinds of paper. The United States government, though not legally bound to give gold for its silver certificates and the notes issued under the Sherman Act, has pledged itself to secure their parity with gold. The 100,000,000*l.* and more (nominal value) of silver which it holds is absolutely useless for this purpose. There can be no doubt that if by a stroke of a magician's wand this 100,000,000*l.* of silver could be changed into its real value in gold (probably only about 64,000,000*l.*), though the nominal debt of the country would be increased, its currency would be in a sounder condition. They are living in a fool's paradise. The outstanding liability on account of their currency—a liability which the wealth and general economic condition of the country doubtless enables them to bear without injury—is concealed by the creation of a fictitious asset of about 36,000,000*l.* in the form of the difference between the nominal and real value of the silver held in the treasury, not required itself for circulation purposes. The other point to which I wish to advert is the wisdom shown by the executive government in the recognition of their obligation to maintain the value of the currency in circulation. I have already alluded to the obligations of a State in regard to what is generally known as its token currency. In the United States this obligation is to some extent recognised by law, which requires that all subsidiary money shall be changed if desired by the holder into lawful money of the country. But the greenbacks—the silver certificates—the Sherman treasury notes—even the silver dollars themselves—are mere tokens of the gold which, rightly or wrongly, has become the legalised measure of value of the country. A token does not cease to be a token because it may happen to be full legal tender. That metal cannot be the measure of value in a country which cannot be turned at the option of the holder into lawful or customary money—even if coined by the State, it can only be the representative of the metal which can be so turned. If all the silver coin and all the copper coin in England were by law made unlimited legal tender, they would still be merely tokens of gold; and if the State at the same time were compelled, as it should be, to give gold in exchange for the tokens it issued when demanded of it, there would be no practical change.

It is the recognition of this fact—of the obligation of a State to keep its representative money as good as the gold which it represents—which has induced the United States government, at great sacrifice, to maintain a gold reserve in its treasury without putting obstacles in the way of those entitled to do so withdrawing gold therefrom. It is the recognition of the fact that the currency added to the circulation of the country by unwise legislation—whether silver dollars, or silver certificates, or treasury notes—was really tokens or representatives of gold, which has enabled it to maintain those tokens or representatives at par. It is only to be regretted that in addition to the provision of the gold, the one further needful step of providing for the automatic withdrawal of such of these representatives as proved to be redundant has not yet been taken.

France is estimated to have the enormous circulation of 8·715*l.* per head of population. Like the United States of America, too, she has a silver reserve practically useless for circulation purposes. But, unlike America, she makes use of the silver reserve (as does also Germany) to restrict the flow of gold from the country. It is done with so much dexterity, that it can scarcely be said to interfere with the gold measure of valuation, and it is probable that in the long run it has no effect on the composition of the reserves.

The division of the balances of Germany and Belgium, which is not given in the accounts published by the banks, has been taken from the "New York Chronicle's" estimate. The 6,000,000*l.* held at Spandau for the German war chest is included.

The money of Austria being now practically at par with the gold which it represents, I have included that country in this table.

I have also included European and Asiatic Turkey. It is difficult to ascertain precisely the monetary arrangements of the various countries which constitute the Ottoman Empire. But since the cessation of silver coinage the silver medjidie and the various divisional coins have gradually risen in gold value, until they have become more or less good representatives of the gold medjidie. In Palestine and Asiatic Turkey generally, I understand, gold, either Turkish, French or English, is really the basis of all important payments, the other coins having gradually become rated to gold, though at varying values. It is very desirable that further light should be thrown on this interesting position.

Everything, however, seems to point to gold being really the measure of value; a measurement carried out not by any decree or action of the Government (except indeed the closure of the mints to silver), but by the gradual action of natural forces under which gold, a great deal in the form of British sovereigns and French napoleons, has survived as the fittest of the two metals as the measure of value. Does it not seem that a lesson might be learnt when we contrast the difficulty which the United States of America, notwithstanding its boundless resources, has, owing to unwise legislation, encountered in maintaining a gold standard of valuation, with the ease with which Turkey, by letting things alone, has drifted into a gold measurement?

The last section includes colonies and possessions which have adopted the representative currencies of the mother country, with practically no gold to support them. The most important are the Dutch East India possessions, with 24¼ million inhabitants, where the florin or guilder acts efficiently as the representative of about double its own intrinsic value in gold. The measurement in gold is of course only maintained by the careful restriction of the coins in circulation to the amount needed for exchanges. But it is worth consideration whether this system may not sooner or later be defeated, both in Java and in our West Indian possessions, by the illicit manufacture of these token coins, for which the present gold price of silver affords so strong an inducement. It was recently stated in the "Times"[1] that it was estimated that 2,000,000 counterfeit guilders of full weight and fineness, coined in China, were in circulation in Netherlands India.

One cannot but be struck, after carefully examining the figures in this table, even after making every allowance for faulty estimates of the metallic circulations, by the enormous difference there is between the amounts of gold with which the measurement is efficiently conducted in the several countries. According to the figures in this table the total gold money in reserve and in circulation in these countries is 682,310,000*l.* If all used their gold as economically as is done in Canada, 257,000,000*l.* only would be required. The demand for gold for monetary purposes is not, as is sometimes supposed, an unlimited demand. The amount required for circulation depends on the customs and laws of the different countries using it. The amount used for reserves too depends in a large measure on the same considerations.

Another point to which I have already alluded is the inutility of the large silver reserves held in those countries in which gold is the measure of value. The quantity of silver in circulation in the countries included in section (*b*) of the table is approximately as fixed as that in circulation in the countries of section (*a*), and the existence of the enormous sum of 190,973,000*l.* nominal value is, under the present system, worse than useless. It helps in no way to secure the paper on a gold basis, and besides its acquisition in the past having unduly encouraged the production of silver, it stands as an ever present menace to other silver holders, who cannot tell at what moment this silver, the bulk of which has been accumulated by unwise legislation, may not be thrown on the market.

Table II gives particulars of countries where values appear to be really measured in silver. The most important group is that for the further East. I need scarcely say that, both as regards population and the money circulation of the country, the figures for China proper are merely conjectural. I thought it better to take together with China and Corea not merely the British colony of Hong Kong, but the Straits Settlements, the Philippines, and other British, Dutch, and Spanish possessions in the East Indies using the Mexican dollar. In the interior of China the silver circulation is for the most part carried out by means of shoes or small ingots of silver, from which pieces are cut off by weight. But the statement that silver is the measure of value in China needs some qualification, for there is a very large circulation of copper cash at no fixed ratio to the tael; and other commodities, such as bricks of tea, are used for money. Mr. Haupt, with the greatest reserve however, estimates the silver in circulation in China, including Corea, I suppose, at 20,000,000*l.* in dollars and 130,000,000*l.* in bars. I presume this is the nominal, and not the real present price, gold value. At present price it represents 82,500,000*l.*, or, assuming the population at 389 millions, an average of 0·212*l.* per head. I have taken the circulation (including silver, paper, and copper) for the whole group at 0·2*l.* per head of population. The paper shown in circulation is merely that issued by the European banks; for though there is apparently a good deal of Chinese paper money circulating in the interior of the country, I have found it impossible to obtain any accurate details. The money of the Philippines included in this group is on a peculiar footing. Strictly speaking, perhaps, it should have been classed as monopoly money, for the Spanish government endeavoured in 1877, and for a time succeeded, in giving an artificial value to the Mexican dollar by prohibiting its importation. A few months ago it was at a premium of 16 per cent., but, owing to successful smuggling and other causes, this is now changed, and it is worth little, if anything, more than the silver of which it is made. A similar attempt to give a monopoly value to the Mexican dollar was made in Porto Rico. In Persia too, owing to the absence of any clearly defined coinage law, the coinage being in the hands of a contractor, the kran sometimes, though not at present, has a monopoly value in excess of the silver contained in it. The circumstances of French Further India are instructive. Some years ago an attempt was made to put into circulation a new silver dollar a trifle more valuable than the Mexican dollar, but it failed, as the more valuable coin disappeared from circulation. It was recently stated in the "Times"[2] that the Paris mint is about to coin a new piastre lighter than the old ones for French Further India. This will probably approach the value of the 5-franc piece. There are certain European possessions on the east coast of Africa where silver in different forms, the Maria Theresa dollar, specially struck Italian and German coins, or the rupee, constitute the medium of exchange and the measure of value. It is not possible to draw an exact line showing where the use of each kind of money ends and the process of barter begins, and I have therefore

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[1] See "Times," 21st August, 1895.

[2] See "Times," 8th August, 1895.

taken (as I have done for the west coast of Africa in Appendix I) a population of 2 millions, with a circulation of 0·2*l.* per head.

Table III shows the countries where values are measured by inconvertible paper. And here I must apologise for putting in the same category countries which are so near having a gold valuation as Chile, and so far off as Paraguay apparently is. The most important and interesting country of the group is Russia, in which I have included not merely Asiatic Russia, but the petty governments of Central Asia under Russian influence. There seems much misapprehension as to the monetary system of Russia. It is described in the "American Mint Report" as silver, and in p. 95 of the report of the Indian Currency Committee of 1893 it was stated that the Russian currency consisted of inconvertible paper roubles based on silver. But as was pointed out by a correspondent of the "Economist," on the 29th of July, 1893, not only is there a large special reserve of gold, but the rouble has on it the promise to pay gold or silver money on demand.

The gold reserve held in Russia amounted to 92,000,000*l.* at the end of 1894, and it is believed that there were other gold resources at the disposal of the Russian government. At 31*d.* an ounce the value of the silver rouble is less than 19·4*d.* The value of the paper rouble is 26·2*d.* There can be no doubt that if the Russian government chose it could at once put its rouble currency on an absolutely effective gold basis at something like its present gold value, 26 pence. The Chilian currency is now in process of conversion. The government has adopted (as it seems to me) the wise plan, when arranging for gold to be the future measure of value, of putting the dollar at something like the value it possessed at the time of the change. There seems a fair prospect of success. But, as recently pointed out by Mr. Haupt, the scheme has been endangered by the disregard of the simple well known rule that the existence of a metallic representative currency depends upon the metal of that currency being certainly over valued compared with the standard metal. The silver token must be worth less than the gold which it represents. I have not heard that this error has yet been remedied. The total of this group of countries represents 13·72 per cent. of the population of the world. Probably sooner or later all the European countries of this group, as well as Chile, will place their currencies on a gold basis. If this be done there will be an addition of 179,754,000 to the population of the world using gold measurements. Whether they will wait till under the course of events the value of their monetary units reaches their issue values, or whether, as seems to me the wiser course—in respect to some of them at any rate—to Russia, Portugal, and also to the South American Republics—they follow the example of Austria and Chile, and adapt their monetary units to something near their present gold valuation, it is impossible to say.

The last group in the series is the monopoly rupee. In order that any metal should perfectly measure values in a country, it is necessary that the holders of it should have the power to turn it into legal or customary current money without restriction. Strictly speaking then, unless there are open mints for the metal selected, or unless people are content, as in China, to carry about bars of silver and a pair of scales in their pockets, values are not accurately measured by it. There are some of the countries given in Appendix II in which the people have not the option of readily turning their silver into current money. But there are different degrees of imperfection. The large populations in the far East served by the Mexican dollar afford an illustration of my meaning. For all practical purposes the metal silver is the measure of value. But it cannot operate so directly, so surely—in the Straits Settlements for instance—as if a mint were opened at Singapore for the conversion, without charge, of bar silver into the required dollars. Cases of much greater imperfection I have already explained as occurring with the same Mexican dollar in the Philippines and Porto Rico, and with the kran in Persia, and there are other countries in Appendix II, notably Madagascar, where the manner in which silver is used as money prevents it exercising its functions perfectly as a measure of value. There are other cases in the world in which, though silver may be largely used as current money, it does not operate as the measure of value at all. In the countries included in Appendices I and III the coinage of silver, except on account of the State, is prohibited, and it is the determined policy of the several governments concerned not to coin it except when wanted for subsidiary purposes. And the rupee too has now ceased to record measurements in silver. The government when it adopted the policy of closing the Indian mints in 1893, virtually pledged itself not merely to the present but also to the permanent discharge of silver from its duty as the measure of value in that country. The case is so peculiar and important that it cannot be classed with any other monetary systems. The monetary unit cannot be stated in any terms of gold. It affects nearly 20 per cent. of the population of the globe. And beyond the general announcement that a gold standard of valuation was being aimed at, and the more specific statement of Sir Henry Fowler, late Secretary of State for India, that sooner or later, perhaps the sooner the better, India must come to have a gold standard, there has been no declaration of the future policy.

It will be well to explain briefly what the present position is.

The rupee is frequently erroneously called a token. As I have already said, a token is a promise to pay, and the rupee as it is at present not only does not constitute any such promise, but it has not yet been fixed by law what amount of gold it shall represent. When the Indian Act VIII of 1893 was passed, under which it ceased to be compulsory for the Indian mints to coin silver for the public, a notification was issued by the Governor-General in Council that gold would be received, until further orders, in exchange for government rupees at the rate of 1*l.* for fifteen rupees. If the rule laid down by this notification had been embodied in the Act as a permanent provision, although it would not have had the effect of making the rupee a token in the right interpretation of the word, it would have made the future policy of the government in this matter more defined; and if owing to the automatic action of trade, gold had gone to India at the rate adopted, a gold measure of value would have been secured, and eventually the rupee might have become a proper token. As it is, values are now measured in India not in silver but in terms of these monopoly rupees, whose intrinsic value in this country is roughly 2*d.* below their market value; but in India, owing to there being a 5 per cent. import duty, the difference is proportionally less. The total metallic circulation of India, including the protected States and Afghanistan, has been assumed at Rx. 148,950,000, which, at the exchange of 1*s.* 1¾*d.*, is equivalent to 85,336,000*l.* The amount, which is based on the calculations made by Mr. F. C. Harrison on the rupee census, has been thus obtained:—

	Rx.
Rupees in circulation, including currency and bank reserves as estimated by Mr. Harrison	128,000,000
Feudatory India using native coins	32,000,000
Afghanistan	1,000,000
Small silver, British and native copper	11,500,000
	172,500,000
Deduct cash reserve of the paper currency department	23,550,000
	Rx. 148,950,000
at 1*s.* 1¾*d.*	= £85,336,000
Add for Portuguese and French India	194,000
	£85,530,000

Mr. F. C. Harrison's estimate is much more reliable than such estimates usually are. For the last twenty years annual examinations have been made of bags of rupees representing current circulation in the different treasuries of India, a careful record being kept of the number of rupees of each year's mintage. Allowances are made by weighting certain figures according to their importance; and the percentage which the coinage of the last year bears to the whole circulation is then estimated. The amount of the coinage of the same year put into circulation is known, and from these figures the total volume of the circulation is calculated.

Of course these figures do not show the rupees which are hoarded, but comparison with the results of previous years enables an estimate to be formed of rupees which have come out of hoards. Mr. Harrison estimates that 3 crores have so reappeared since the closure of the mints. The matter is one of great interest and importance, not merely as affecting India, but as indicating to some extent the manner in which the precious metals operate as measures of value. Mr. Bagehot predicted a settlement of the silver difficulty by the rise in prices in India which would follow the large shipments of silver to that country. But though the net imports of silver into India since 1876 have amounted to about 164 crores, the actual rupee circulation has, including the 3 crores which came out of hoards last year, only increased by 13 crores. The Indian demand for silver has not been mainly a monetary demand, but has been principally for hoards and ornaments.[3]

The population of the world without any monetary system, including tropical Africa and some of the oceanic islands, is estimated at 128,600,000.

Imperfect as these tables are, I hope that some interesting conclusions may be drawn from them. In the first place they show what a large proportion of the countries of the world are either under a gold system of valuation at present or are more or less pledged to its adoption. If the European countries now using inconvertible paper and Chili are able to acquire the power of measuring their transactions in gold, and if the monopoly rupee becomes—as with a wise, firm policy it may eventually become—an efficient gold measure, we shall have more than 55 per cent. of the whole population of the world on a gold basis. And I do not think this prospect need fill us with alarm. Russia has sufficient gold—nearly 1*l.* per head of population—to maintain her money on a gold basis, the only question being the gold value to be assigned to the rouble. 30,000,000*l.* would, with their present stocks, give the other countries, except India, more than 1*l.* per head of population; while 30,000,000*l.* would probably be sufficient hereafter to secure the gold value of the rupee at the rate at which it may be settled to convert it. 60,000,000*l.* is but a small demand to make on the next few years' production of gold according to present estimates. It is impossible to predict the future monetary policy of the silver using countries of the far east, but it does not seem improbable that the important empire of Japan may before long follow the example of Europe, and discard silver as the measure of valuation.

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[3] Particulars of the Indian Native States' coinage were received too late for incorporation in the paper. There are altogether 34 mints in the Native States of India. Of these 10, representing a population of about 13,000,000, are open for public coinage. These States should therefore have been treated as silver, and not as monopoly rupee, countries. See letter from author in the "Times," 27th November, 1895.—L.C.P.

The figures confirm too what our everyday experience teaches us—that countries whose economic condition enables the maintenance of a gold measure of valuation have had no difficulty in getting as much gold as was necessary for their purpose. There has been no scarcity of gold, either for currency or reserves, either in the United Kingdom or in other regular gold using countries. The scarcity of gold in the United States treasury has been the direct result predicted years ago of unwise legislation, the evil effects of which the vast resources of the great republic have enabled it in some measure to counteract. In Canada and other countries where, though gold measures value, it is not generally used for currency purposes, all the gold needed to maintain the measure of value is present, though the systems are in some cases crude and imperfect. In Australasia it was no want of the circulating medium, no deficiency of gold, which brought about the late financial crisis. It will be seen too that it is quite possible to maintain gold as the measure of value with little or none of that metal as the circulating medium, and that though the surest way of maintaining such a system—the true test of the effectivity of the measure of value—is for the authority issuing the circulating medium to make it freely convertible into gold, the result is in practice sometimes brought about by so carefully arranging the quantity in circulation as to make it for internal purposes as good as the gold it represents.

We learn too how powerful for evil or for good, how far reaching in its effects, is the legal tender attribute given to certain forms of currency. Without this attribute the different depreciated currencies of the world could never have existed; while by means of it the Government of British India is being enabled to tide over the period of transition from a silver to a gold measure of value, and with its help such practically useful systems as that partially founded on a small issue of Dominion notes in Canada, and as the token system of Netherlands India, have been built up. A more important use of the legal tender attribute we see as the relic of the system which has now passed away, probably never to return, under which gold and silver were made by law optional measures of valuation at a fixed ratio. Under this system there was not a double but an alternating measure of valuation, for that one of the two metals was necessarily the measure of which the real had fallen below the rated value. No doubt the legal tender power which was given to each metal did exercise a very powerful influence in maintaining their relative values. We know the large existing stocks there were to deal with. The over valued metal was bound to displace the under valued metal from circulation; but during the process of displacement, the over valuation and under valuation of the respective metals was bound to be checked, though ultimately their relative values, as the relative values of everything else produced by the labour and ingenuity of man, was bound to be regulated by the relative cost of production of the two metals. We see a considerable quantity of these relics of bimetallism still retained in circulation, usefully representing gold by which alone values are measured in the countries in which they circulate, but representing it effectively not so much, if, indeed, at all, by virtue of their legal tender attribute, as in consequence of their practical convertibility into the metal measuring value. We see, however, a much larger quantity cumbering the vaults at Washington and Paris, which the legal tender attribute is powerless to force into circulation.

The consideration of the various monetary systems of the world enables us too to get some insight into what is perhaps the most difficult problem in the whole range of monetary economics, how a precious metal acts as a measure of value. The large increase, actual and prospective, in the production of gold makes the matter one of so much importance that even the suggestions of a layman anxious for the truth may be worth the consideration of professed economists. So far as we can see, the measurement does not depend on a specific portion of the metal. It is not the quantity which may be used as money, but it is the general commodity, say gold, against which other things are measured. Whatever may have been the origin of money, our sovereigns, and our representatives of gold, whether token coins, or notes, or credit in its various forms, are only means to an end, means to ascertain the relative values in gold of different things, and to transfer their ownership from one person to another. As Mr. Mill puts it, "money (is) a mere contrivance for facilitating "exchanges."

But we also see how great a demand has been caused for the precious metals by the adoption of this contrivance. According to my estimate the present stock of metallic money is respectively 193,274,000 ozs. of gold and 3,167,000,000 ozs. of silver, while the total world's production since 1493 is estimated at only

414,465,000 ozs. of gold and 7,827,200,000 ozs. of silver,[4] so that nearly one-half of the precious metals produced during the last four hundred years is now in use for monetary purposes. We can see then how their value must in the past have been, and must still now be, affected by the great demand arising for them as money. The monetary demand, however, appears to occur once for all when the metal is required for its monetary use. Although, as Chevalier says, money is in a constant state of supply and demand, yet this supply and demand are so absolutely continuous, the use of money is so essentially for the one purpose of facilitating exchanges, that ordinarily it does not go on the market at all. The supply of the precious metals in the shape of money appears to be any excess which may not be needed to carry out exchanges, and this with the supply from the mines and from released hoards and ornaments constitutes the supply offered on the market. The monetary demand for the precious metals appears to be for the quantity needed to carry out exchanges. The quantity so needed is affected principally by changes in the monetary systems of the world. When Germany discarded silver; when Austria determined to put her money on a gold basis; when Russia accumulated her enormous gold reserve, very large demands for gold were created. But when once such changes have been carried out, the quantity of the precious metals used as money, though it is affected by alterations in population and in the economic condition of the people, is limited by the essential characteristic of coin mentioned by Jevons, that "it yields no profit by keeping it in the pocket or the safe." This characteristic acts as a strong inducement on everyone to limit the amount of metal used as money to the quantity needed to carry out exchanges in the most economical manner consistent with convenience and with the laws and customs of the country; and for this reason any increase in the supply of gold is not directly or even necessarily followed by an increase in the quantity used as currency. For though an open mint, sometimes erroneously described as an insatiable customer, turns all metal brought to it into coin, it cannot force the coins to remain in circulation.

[4]

	Fine ozs. of Gold.
From 1493 to 1885 (Soetbeer)................	358,050,000
„ 1886 „ 1894	56,415,000
Total ozs............................	414,465,000

	Fine ozs. of Silver.
From 1493 to 1885 (Soetbeer)	6,668,500,000
„ 1886 „ 1894	1,158,700,000
Total ozs.	7,827,200,000

But notwithstanding this characteristic the use of the precious metals for the purposes of measuring value creates a demand for them for public and private hoards which would not otherwise exist, or, at any rate, to the same extent. The miser—from mistrust—or from worse motives—makes a demand on the supply of the precious metal by putting it in his stocking. The State—so as to strengthen its position in the event of war—forms a war-chest; and these demands, though they are made on the currency, have just the same effect as if made directly on unminted gold. But there is another, and it appears to me a more important, form of hoarding, though only temporary in its character, caused by the accumulation in bank reserves of gold over and above the amount required to secure paper issues and the quantity ordinarily needed to support banking accounts, representing balances at call which cannot profitably be employed. It seems to me that this locking up of gold must operate as a demand for that metal just as the demand for the miser's stocking; and that this "store of value" does not really come on to the market until the real holders are willing to exchange it for a profit-bearing security or some other thing. I venture to think that mistrust is one cause of this temporary hoarding of gold, and that it hinders the fall in the value of that metal which might otherwise occur.

The use of the precious metals for the arts and for ornaments, and their retention in this form, may also to some extent be encouraged by their monetary use. But at any rate it is an important factor in the demand. There is a striking example of this non-monetary use in India, where the precious metals now accumulated in the form of hoards and ornaments are estimated at 180,000,000*l.* in gold, and 1,356,000,000 oz. of silver, or more than one-tenth of the total production of gold and nearly one-sixth of that of silver in the last four hundred years. Probably we shall not be far wrong in assuming that the non-monetary demand for the precious metals in the period has been about equal to the monetary demand.

It should be remembered, however, that though the temporary values of the precious metals are thus influenced by the monetary and non-monetary demands for them, their permanent values, as the values of all other things, are ultimately regulated by the cost of production.

Allusion has already been made to the effectivity of the measure of value depending on the convertibility of the money by which the measuring process may happen to be carried out into the metal selected as the measure. This appears to be the essence of the whole matter. The metal selected can only act with complete efficiency when every holder of it can turn it into legalised or recognised money, and when every holder of such money can turn it into the portion of the metal which it professes to represent. The most certain way for securing this end is for the money of the country to be of defined portions of the metal, the State undertaking to coin it for all comers either without charge or at a small seigniorage. But the same result may be, and in practice as we see has been, secured by the money consisting either of a less valuable metal or of paper, and being convertible into the precious metal under proper regulations. In either case the quantity of money in circulation automatically conforms to the requirements of the people, any excess going into the market as an ordinary commodity, any deficiency being demanded from the market, the value of money therefore exactly conforming to that of the metal of which it is composed or which it represents.

So far I have only considered the case in which one metal is established as the legalised measure of value. But, as has been already explained, when two metals are selected, and a ratio of parity is fixed between them, a new factor comes in. As Mr. Mill says, "practically that one of the metals will always be the standard" (or measure of value) "of which the real has fallen below the "rated value." But it is obvious that, if this be so, which of the two metals becomes the measure of value must depend on the ratio. To repeat an illustration I have used on another occasion.[5] With a ratio of 5 of silver to 1 of gold, silver, while with a ratio of 50 of silver to 1 of gold, gold, would be permanently overvalued. Unless enormous changes occurred in the present relative cost of production of the two metals, in the former case, silver, in the latter case, gold, would be permanently established as the measure of value. In how short a time the gold in the one case, the silver in the other, would disappear from circulation—how long the complete disappearance would be delayed by the displacement action to which I have referred—need not be discussed. From the date of the passing of the law fixing a ratio of 5 to 1, silver, though its value would certainly be temporarily raised by the effect of the law, would alone operate under it as the common measure of value. And though I have taken an extreme case for the sake of illustration, I believe the same results would follow any ratio approaching 15½ to 1, while the Gold-bugs of Lombard Street might look on with complacency, at all events for the present, at a ratio of say 31 to 1, under which I believe gold would continue its supremacy as the measure of value. [Continued on p. 583.]

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[5] "The Maintenance by England of her Single Gold Standard." Published by the Bimetallic League.

APPENDIX I.—*Estimate of Money in the Countri*

Countries.	Monetary Unit.		Population.	In the Aggregat	
	Designation.	Gold Value in PENCE.	[000's omitted.]	Gold.	
				State and Bank Holdings.	In Circulation.
(*a*). Principal Currency. Gold or paper exchangeable into gold.					
United Kingdom	Pound	240	38,900,	41,211,	44,000,
Australasia			4,310,	24,272,	4,310,
South Africa			4,000,	3,958,	4,000,
Cyprus			211,	—	310,
Malta			177,	—	305,
Various islands			347,	—	173,
Canada	Dollar	49·316	4,840,	3,569,	—
British Honduras			31,	12,	—
Newfoundland	„	50	202,	—	—
Scandinavia	Crown	13·216	9,079,	6,356,	500,
Finland	Marka	9·515	2,412,	876,	—
Egypt	Egyptian pound	243·773	6,800,	—	27,000,
Uruguay	Peso	51·004	772,	1,213,	3,037,
Total	—	—	72,081,	81,467,	83,635,
(*b*). Principal Currency. Gold and silver or paper exchangeable into gold and silver.					
United States	Dollar	49·316	68,900,	58,311,	72,258,
France	Franc	—	38,238,	82,784,	104,000,
Algeria			4,125,	920,	1,280,
Tunis			1,500,	—	1,168,
Belgium			6,200,	3,453,	8,000,
Switzerland			2,933,	3,260,	600,
Roumania	Lei	—	5,800,	1,864,	1,000,
Bulgaria	Lev	—	3,310,	160,	—
Venezuela	Bolivar	—	2,324,	—	200,
German Empire	Mark	11·747	49,639,	44,033,	88,200,
Netherlands	Florin	19·823	4,700,	4,116,	2,000,
Austria-Hungary	„	19·985	42,889,	25,920,	—
European and Asiatic Turkey	Turkish pound	216·804	27,848,	955,	11,907,
„ West Africa	Various	—	2,000,	—	250,
Total	—	—	260,406,	225,776,	290,863,
(*c*). Principal Currency. Silver or paper exchangeable into silver.					
Dutch East India possessions	Guilder or florin	19·823	24,285,	455,	—
British West India „	Dollar	50	1,694,	114,	—
Sundry French „	Franc	9·515	640,	—	—
„ German „	Mark	11·747	400,	—	—
Total	—	—	27,019,	569,	—
Grand total	—	—	359,506,	307,812,	374,498,

f the World where Values are Measured in Gold.

£'s [000's omitted].					*Per Capita* in £'s in Circulation.			
Representative Silver, Nickel, and Copper at Nominal Values.		Paper in Circulation.	Total.		Gold.	Representative Silver, Nickel, and Copper.	Paper.	Total.
State and Bank Holdings.	In Circulation.		State and Bank Holdings.	In Circulation.				
—	23,931,	40,859,	41,211,	108,790,	1·131	0·615	1·051	2·797
—	1,303,	3,821,	24,272,	9,434,	1·000	0·303	0·887	2·190
—	1,200,	1,116,	3,958,	6,316,	1·000	0·300	0·279	1·579
—	70,	—	—	380,	1·470	0·331	—	1·801
—	125,	26,	—	456,	1·724	0·706	0·146	2·576
—	104,	—	—	277,	0·500	0·300	—	0·800
—	1,195,	7,838,	3,569,	9,033,	—	0·247	1·619	1·866
—	12,	12,	12,	24,	—	0·387	0·387	0·774
—	96,	292,	—	388,	—	0·475	1·446	1·921
724,	1,900,	13,208,	7,080,	15,608,	0·055	0·209	1·455	1·719
140,	492,	1,996,	1,016,	2,488,	—	0·204	0·827	1·031
—	1,260,	—	—	28,260,	3·971	0·185	—	4·156
—	425,	804,	1,213,	4,266,	3·934	0·550	1·042	5·526
864,	32,113,	69,972,	82,331,	185,720,	1·161	0·449	0·969	2·579
105,430,	26,227,	233,595,	163,741,	332,080,	1·049	0·381	3·390	4·820
49,680,	90,000,	139,264,	132.464,	333,264,	2·719	2·354	3·642	8·715
640,	1,760,	2,680,	1,560,	5,720,	0·310	0·427	0·649	1·386
—	268,	—	—	1,436,	0·779	0·178	—	0·957
1,727,	8,840,	17,868,	5,180,	34,708,	1·290	1·426	2·882	5·598
520,	2,080,	7,168,	3,780,	9,848,	0·205	0·709	2·444	3·358
160,	2,128,	4,196,	2,024,	7,324,	0·172	0·367	0·724	1·263
304,	1,320,	40,	464,	1,360,	—	0·397	0·012	0·409
—	528,	432,	—	1,160,	0·086	0·227	0·186	0·499
12,680,	32,720,	60,560,	56,713,	181,480,	1·777	0·659	1·220	3·656
6,948,	5,180,	17,040,	11,064,	24,220,	0·426	1·102	3·625	5·153
11,692,	13,506,	67,592,	37,612,	81,098,	—	0·314	1·572	1·886
792,	8,548,	839,	1,747,	21,294,	0·425	0·305	0·030	0·760
—	250,	—	—	500,	0·125	0·125	—	0·250
190,573,	193,355,	551,274,	416,349,	1,035,492,	1·119	0·742	2·120	3·981
195,	14,182,	3,529,	650,	17,711,	—	0·583	0·145	0·728
403,	847,	507,	517,	1,354,	—	0·500	0·299	0·799
236,	320,	496,	236,	816,	—	0·500	0·775	1·275
—	200,	—	—	200,	—	0·500	—	0·500
834,	15,549,	4,532,	1,403,	20,081,	—	0·576	0·168	0·744
192,271,	241,017,	625,778,	500,083,	1,241,293,	1·041	0·670	1·738	3·449

II.—*Estimate of Money in the Countries of the World where Values are Measured in Silver.*

Countries.	Monetary Unit.			Population.	Aggregate Stock, Silver and Paper being Converted into £'s [000's omitted] at 31*d.* per Ounce, 925 fine.					*Per Capita* in £'s in Circulation.		
	Designation.	GRAINS of Pure Silver.	Value in PENCE at 31*d.* per Ounce, 925 fine.	[000's omitted.]	Gold. State and Bank Holdings.	Silver, Nickel, and Copper. State and Bank Holdings.	Silver, Nickel, and Copper. In Circulation.	Paper in Circulation.	Total in Circulation.	Silver, Nickel, and Copper.	Paper.	Total.
Japan	Yen	374·4	26·142	41,090,	16,528,	2,641,	6,984,	19,169,	26,153,	0·170	0·467	0·637
Siam	Tical	206·29	14·403	5,000,	—	—	926,	74,	1,000,	0·185	0·015	0·200
Persia	Kran	62·03	4·401	9,000,	—	25,	1,731,	69,	1,800,	0·192	0·008	0·200
China, Corea, Straits Settlements, Dutch and other East India islands using Mexican dollars	Tael and Dollar	Various 377·06	— 26·324	403,304,	—	5,914,	78,920,	1,741,	80,661,	0·196	0·004	0·200
French further India	Dollar	377·06	26·324	17,834,	—	340,	2,819,	748,	3,567,	0·158	0·042	0·200
Mexico				12,056,	—	3,480,	8,470,	3,063,	11,533,	0·703	0·254	0·957
Porto Rico				807,	—	176,	741,	124,	865,	0·918	0·154	1·072
San Domingo				610,	—	—	152,	—	152,	0·250	—	0·250
Peru	Sol	347·23	24·243	2,972,	—	—	1,414,	—	1,414,	0·470	—	0·470
Bolivia	Bolivar			2,300,	—	95,	309,	614,	923,	0·134	0·266	0·400
Ecuador	Sucre			1,270,	—	167,	152,	411,	563,	0·119	0·324	0·443
Guatemala	Peso			1,510,	—	—	1,212,	—	1,212,	0·800	—	0·800
Honduras	"			396,	—	—	297,	—	297,	0·750	—	0·750
Salvador	"			780,	—	778,	1,111,	404,	1,515,	1·424	0·518	1·942
Nicaragua	"			313,	—	—	234,	—	234,	0·750	—	0·750
Morocco	—	—	—	5,000,	—	—	900,	—	900,	0·180	—	0·180
Madagascar	—	—	—	3,500,	—	—	650,	—	650,	0·186	—	0·186
European, money-using, East Africa	—	—	—	2,000,	—	—	400,	—	400,	0·200	—	0·200
Total	—	—	—	509,742,	16,528,	13,616,	107,422,	26,417,	133,839,	0·211	0·052	0·263

III.—*Estimate of Money in the Countries of the World where Values are Measured in Inconvertible Paper.*

Countries.	Monetary Unit.			Population.	In the Aggregate Converted into £'s [000's omitted] at the present Gold Value of Monetary Units.						*Per Capita* in £'s in Circulation.		
	Designation.	Gold Value in PENCE.			Gold.	Silver, Nickel, and Copper.		Paper in Circulation.	Total.		Silver, Nickel, and Copper.	Paper.	Total.
		Issue Value.	Present Value.	[000's omitted.]	State and Bank Holdings.	State and Bank Holdings.	In Circulation.		State and Bank Holdings.	In Circulation.			
Russia	Rouble	38·059	26·2	118,811,	92,158,	438,	9,391,	117,015,	92,596,	126,406,	0·079	0·985	1·064
Italy	Lire	9·515	9·0	30,725,	19,960,	3,034,	3,938,	40,976,	22,994,	44,914,	0·127	1·333	1·460
Spain	Peseta		7·1	17,560,	8,004,	8,153,	21,685,	26,903,	16,157,	48,588,	1·233	1·528	2·761
Greece...............	Drachma..		5·4	2,217,	38,	21,	35,	4,354,	59,	4,389,	0·016	1·747	1·763
Servia	Dinar		8·0	2,256,	256,	144,	25,	837,	400,	862,	0·011	0·370	0·381
Portugal	Milreis	53·278	42·0	4,820,	896,	1,207,	3,887,	9,306,	2,103,	13,193,	0·807	1·930	2·737
Brazil	,, ...	26·934	10·5	14,600,	—	—	250,	30,979,	—	31,229,	0·017	2·122	2·139
Argentina	Peso	47·578	14·5	4,257,	200,	—	75,	18,532,	200,	18,607,	0·018	4·353	4·371
Paraguay	,, ...		7·4	480,	—	—	10,	230,	—	240,	0·020	0·480	0·500
Colombia	,, ...		19·2	3,879,	—	—	78,	2,091,	—	2,169,	0·020	0·539	0·559
Costa Rica	,, ...		19·2	266,	—	34,	5,	280,	34,	285,	0·019	1·052	1·071
Haiti	Gourde		39·6	960,	50,	—	491,	604,	50,	1,095,	0·511	0·629	1·140
Cuba	Peso	45·66	38·1	1,632,	1,000,	—	500,	3,505,	1,000,	4,005,	0·306	2·148	2·454
Chili	Dollar	18·0	17·5	3,365,	13,	400,	365,	4,197,	413,	4,562,	0·109	1·247	1·356
Total........	—	—	—	205,828,	122,575,	13,431,	40,735,	259,809,	136,006,	300,544,	0·198	1·262	1·460

IV.—*Estimate of Money in the Countries of the World where Values are Measured in Monopoly Rupees.*

Countries.	Monetary Unit.			Population.	Stock of Money in the Aggregate Converted into £'s [000's omitted] at Present Gold Value of Monetary Unit.				*Per Capita* in £'s in Circulation.		
	Designation.	Intrinsic Gold Value in PENCE of Monetary Unit at 31*d.* per Ounce of Silver, 925 Fine.	Present Gold Value in PENCE of Monetary Unit.	[000's omitted.]	Silver, Nickel, and Copper. Paper Currency, Cash Reserves.	Silver, Nickel, and Copper. In Circulation.	Paper in Circulation.	Total Circulation.	Silver, Nickel, and Copper.	Paper.	Total.
British India and Native States, Afghanistan; Goa, and Pondicherry being included	Rupee	11·52	13·75	292,868,	13,491,	85,530,	18,178,	103,708,	0·292	0·062	0·354
Ceylon	„	11·52	13·75	3,008,	278,	450,	511,	961,	0·149	0·170	0·319
Mauritius				388,	87,	58,	179,	237,	0·150	0·461	0·611
Total................	—	—	—	296,264,	13,856,	86,038,	18,868,	104,906,	0·290	0·064	0·354

What however will be the result of the enormous production of gold of which we are now assured? One possible solution of the question appears to be that these large supplies coming on the market may be answered by a demand for the purpose of measuring values in gold in countries where it is not now so used—of facilitating the exchanges of the whole world on a gold basis. But whether this be so or not, I would hazard a guess—for the circumstances attending the production of gold and silver, and therefore regulating their permanent values, are so uncertain that it can be only a guess—that if things be left alone, if there be no more unwise silver legislation, if the State accumulations of the past not wanted for currency are gradually dispersed, even the important yield of gold from South Africa will be insufficient to restore silver to its old gold ratio.

The real object of bimetallism, no matter in what form it is stated, is to lower the values of the monetary units of gold-using countries. And it is thought that the rise in prices expressed by these monetary units, which, if what is considered a reasonable ratio be fixed, will, I think, follow the adoption of bimetallism, will benefit the community generally. Debtors no doubt will benefit at the expense of creditors. But I fail to see, I do not think it has yet been shown, that this will add to the wealth of the world.

I venture to think that the figures which I have presented with this paper will to some extent show that the exchanges of the world can even now be arranged without bimetallism, that there has been and is no scarcity of gold in the ordinary acceptance of the term. Though the value of gold is undoubtedly less than it was in 1873, it appears to me that this is now at any rate in some measure due to the mistrust consequent on past mischievous currency legislation, fostered it may be by uncertainty as to the future, which has prevented the gold accumulated at our large banking centres from freely finding its way on the market. But whether I am right or not, the great increase in the production of gold now taking place must, I believe, sooner or later, even if the demand I have suggested should occur, bring about a rise in gold prices. More, however, than to any alterations in the conditions of the production or use of gold, the low prices of the past have been due to the ingenuity of man, and to what Mr. Leonard Courtney has happily described as the great rivalry of production going on all over the world. One might as well attempt to dam up a mighty river with shifting sand as to fight this great rivalry of production by artificially lowering the value of the monetary unit.

DISCUSSION *on* MR. PROBYN'S PAPER.

MR. H. R. BEETON said that a great monetary economist had recently observed that two kinds of problems were involved in the working of all monetary systems: (1), problems of internal equivalence or parity; and (2) problems of external valuation, or stability of purchasing power; and while it was evident that the latter category of problems most interested Mr. Probyn, yet the statistical method which he adopted was applicable only to the former. To compare the internal equivalence of different moneys which maintained the same external valuation, it was necessary to reduce their different constituents to a common denominator, as Mr. Probyn had done in Appendix I; but to compare the different external valuations of moneys it was useless to reduce their different constituents to a common denominator, as he had done in Appendices II, III, and IV. If a commodity was the equivalent of a certain amount of gold, silver, and inconvertible paper in different countries according to the measure of value of each, those amounts of gold, silver, and inconvertible paper were of course equivalent to each other, and what was wanted in such case, therefore, was not to compare the value of such moneys in terms of each other, but to compare the values of all of them in terms of commodities, so as to ascertain their comparative purchasing power. He ventured to suggest, accordingly, that there was a wide and useful field for investigation by Mr. Probyn in studying the comparative Index Numbers of the moneys of those countries which he had been observing.

As to internal equivalence, Appendix No. I, which related to different moneys maintaining the same external valuation (*viz.*, gold), was subdivided, the first category comprising such countries as the United Kingdom, Finland, Uruguay, &c., which rejoiced in gold or paper convertible into gold as full legal tender money, and the second category comprising less favoured countries such as the United States, France, Germany, &c., which retained the "relics of bimetallism" in the form of gold or silver, or paper convertible into gold or silver, as full legal tender money. Now, if it was undesirable to use a more expensive material when a less expensive one would serve the same purpose, it was a suggestive fact that the countries in the first category were obliged to employ over 80 per cent. of their money in gold to maintain the valuation which the countries in the second category were able to maintain with 60 per cent. of that metal. Further, in that same category, subdivision B of Appendix I, there was a total of 190,573,000*l.* of silver in banks as reserve against paper, with regard to which Mr. Probyn's said "that enormous sum was, under the system of those countries, worse than useless." As he understood Mr. Probyn's contention it was that as the paper in those countries was circulating at par with gold, the whole of the silver deposited to secure the convertibility of that paper was useless, and that the world would be no poorer if it were to disappear, and would be actually richer if it were appropriated to other uses. There was a fallacy in that argument, because the paper that was in circulation at par with gold was not, as Mr. Probyn stated, "on a gold basis," but on a gold and silver basis, *i.e.*, it was convertible not into gold but into gold and silver, and as the silver must be regarded as indispensible to the *convertibility* of the paper, if the silver was eliminated the paper would not circulate at par with gold at all. Of course it might be matter of opinion whether the amount of reserve whether of gold or gold and silver, which the Government of any country maintained to secure the convertibility of its paper was or was not, excessive, but no *a priori* rule could be laid down as to the proportion of reserve necessary for the purpose, and the Governments of the United States and France must be held to be the best judges of the point in the circumstances. Mr. Probyn had also said that these countries by their action had "unduly encouraged the production of silver," but as far as France was concerned it would be in the recollection of the Society that M. de Foville, the Director of the French Mint, had stated in a note supplied to Mr. Barr Robertson (*Journal*, vol. lviii (1895), part 3, p. 433), that France had acquired no silver since 1876. Mr. Probyn had also said that the silver reserves of such nations were "an ever present menace to the market," but apart from the fact referred to by him in the case of the United States that $331,078,000 existed in the form of paper issued under the Bland Act of 1878 convertible only into silver, and that such could not therefore be disposed of without destroying the value of such money altogether, no responsible statesman in that country would ever dream of suggesting such an alteration of the law as would permit of the silver reserves being expropriated and turned to any other use whatsoever.

As to external valuation, Mr. Probyn admitted to experiencing great difficulty in obtaining insight into the problem, and it was evident throughout his paper that he dealt with the point with diffidence. He (Mr. Beeton) believed that Mr. Probyn's difficulty would have been largely removed if he had understood that the measure of value in every country was the volume of legal tender money in that country, *and nothing else.* If the money of a country exchanged at par with one of the precious metals, then, because such money was equivalent to such metal, gold or silver, as the case might be, was said to be the measure of value in that country, but the measure of value in so-called gold-standard nations was not gold, but the legal tender money of such nations which was compounded of gold and silver and other metals as well as paper. The moneys of the countries enumerated in Appendix I were convertible into gold, and in the conventional sense gold was their measure of value; but that metal was not "selected," as Mr. Probyn said, the measure of value being unknown to law, although the law might so define money as to make it homogeneous to gold as a measure of value. The difficulty which Mr. Probyn had in grasping the true nature of a measure of value was no doubt largely accountable for the strange conclusions at which he arrived, that "countries whose economic condition enables the maintenance of a gold measure of valuation" (*i.e.*, countries whose economic conditions were as divergent as those of the United Kingdom, Finland, Venezuela, &c.), "have had no difficulty in getting as much gold as was necessary for their purpose," and that "there was no scarcity of gold in the ordinary acceptation of the word." But we required gold not merely for the purpose of carrying on exchanges, but for the purpose of carrying on exchanges *at a more or less constant level of values*, which was a wholly different thing. As much gold as was necessary for our purpose in the ordinary acceptation of the word, was as much gold as was necessary to provide us with a money which would supply us with a comparatively stable measure of value. An amount of gold which resulted in our money being a depreciating measure of value was redundant, while an amount of gold which resulted in our money being an appreciating standard was insufficient. Mr. Probyn had said that "one might as well attempt to dam up a mighty river with shifting sand as to fight the great rivalry of production by artificially lowering the value of the monetary unit," but he (Mr. Beeton) believed in the possibility of maintaining a stable, or even a depreciating, measure of value notwithstanding the great rivalry of production, because he had seen it done in India and in the Argentine Republic. History, therefore, disposed of Mr. Probyn's rhetorical conclusion that the effects of production due to improved methods rendered the maintenance of a stable measure of value beyond the resources of Government.

Mr. A. SAUERBECK said that, with regard to what the requirements would be if a gold standard was introduced into other countries, it was stated that 30,000,000*l.* would perhaps be sufficient for those countries which now had a paper currency, and about 30,000,000*l.* for India. It was a very difficult matter to give any definite sum, because no one knew the quantity of rupees in existence. It was all very well to estimate it at 128 crores, but they knew that during the last sixty years about 350 crores had been coined, and how much of that was still in existence they could not tell. Of course a great quantity had been melted down and a great deal hoarded, and any attempt to fix the value would lead to the rupees now being hoarded coming out to be exchanged for gold. He considered it impossible to say what quantity of gold would be required to establish a gold standard in India. A parity could only be maintained by greatly reducing the quantity of rupees, and there would practically be no market for all the silver to be sold.

As to prices in the future, he quite agreed with Mr. Probyn that there might be a rise owing to the large discoveries of gold, but this improvement would come, to a certain extent, if confidence returned. They all knew that there were times of depression and times of confidence, and that prices moved up and down independently of money to a certain extent. If that confidence returned, and if the reserves now hoarded were spent, and if there was a large production of gold, it might have the effect of maintaining prices at a somewhat higher level than the present; but if all the gold now being produced was to be used in replacing the 700,000,000*l.* of silver money, no such result would follow. It would be quite impossible, in his opinion, to discard silver altogether, and any attempt in that direction would be most disastrous. The value of gold and silver was not immediately dependent on the cost of production, although it might ultimately be so, but on the demand. If the demand should require another 700,000,000*l.* of gold to replace the silver, the value of gold and silver then established would have nothing whatever to do with any cost of production, it would be simply the demand which would fix the value. As he had pointed out in his last report on prices in the March number of the *Journal*, about 15,000,000*l.* of gold might be required every year for industrial purposes and for the East, Africa, and South America, and with a production of 36,000,000*l.* as in 1894 that would leave about 21,000,000*l.* available for monetary purposes in Europe and North America, which would be about sufficient to meet the increase of population, but would not be enough to make any changes in the currency. If any fresh changes were made, and silver was to be sold to any extent, he was afraid that they would not have a rise in prices, but a further fall.

Mr. THOMAS CORNISH, M.E., said that he differed very materially from many of the authorities who had been before the world with reference to the production of gold and silver. It had been drilled into his head for the last forty years that there was going to be an over-production of gold, but he had not seen it, nor had he ever met anyone yet who had enough gold and silver. During the last forty-five years about 800,000,000*l.* sterling of gold had been produced, about twice the quantity the world previously possessed, and, as there was still not enough for the various communities, it was not likely that there would ever be any over production. Gold was real wealth, and the standard by which all other wealth was measured. Its production created new purchasing power, not only so far as its intrinsic value was concerned, but because it was a wealth that, when produced, was the germ or means of producing other wealth to meet human requirements. The man who produced an ounce of gold added practically four new sovereigns to the currency of the country in which he lived, and all the trade and commerce of London could not do as much, for it could only concentrate wealth in certain hands, and concentration was not production. An increased supply of gold could only be obtained by gold mining, therefore gold mining was one of the most important industries in the world. Some time back gold mining became much neglected on many gold fields, and there consequently soon followed much financial depression, and many of those who had been employed in producing gold, rushed to the large towns or entered into other occupations to compete with other workmen. He maintained that the whole currency question could be best settled if the ratio of silver and gold was fixed at 10 per cent., that is to say, if in every 100*l*., 90*l*. could be paid in gold and 10*l*. in silver. This, he thought, would increase the value and more general use of silver, without depreciating the value of gold, and was consequently the most simple solution of the gold and silver question.

Mr. J. E. C. MUNRO said that with regard to the adoption of a gold standard in India he agreed with Mr. Sauerbeck. An ounce of gold in one country might be as effective in purchasing power as an ounce of gold in another. When Germany, for example, adopted a gold standard, the total amount of gold in the world was not reduced by a single ounce; and, although there might have been a temporary disturbance of prices by gold passing from other countries to Germany, the gold was there and the purchasing power was there. The real monetary disturbance arose from silver going out of circulation and being turned into a commodity, so that the same amount of gold had to be used to deal with a greater amount of commodities, and there was bound to be a fall in prices. If a gold standard were to be adopted in India the same thing would happen there, and prices again would fall. But it must be remembered that one ounce of gold might be more effective in one country than in another. In England, where credit was well developed, one sovereign might develop 50*l*., 60*l*., or 100*l*. of credit, and that credit had enormous force in affecting prices. If the gold went to countries in which credit was not developed, it could not be so effective or have the same rapidity of circulation, and it would be a disadvantage to have the gold flowing to countries where it might be to a large extent hoarded, and not used for the purpose of circulation. It was very desirable to obtain further information as to the probable course of events that would follow any future discoveries of gold, and the increasing output in South Africa and Western Australia. He agreed with Mr. Cornish that the man who found an ounce of gold added to his purchasing power, for he must go into the market to buy commodities, and it was that demand for commodities which affected prices. The exchange of gold for the various materials of well-being necessarily took place in the locality where the gold was found; it had taken place in Western Australia, and the result was a general rise of prices there. He did not think that the demand for commodities would be felt nearly so much in this country, at any rate, as it was in 1850 and subsequent years, after the discoveries of gold in California and Victoria, when England was supreme in the markets of the world and supplied the bulk of all manufactured goods. But now in Western Australia the gold-mining population could obtain a substantial amount of the imports they required from the other Australian colonies, Canada, and the United States, and he would expect to see in the future a gradual rise in prices, distributed much more widely over the commercial nations of the world than had been the case in 1850, which would be felt in England chiefly in the manufacture of machinery and those things which the colonies could not produce in sufficiently large quantities.

Mr. Rowland Hamilton said that the old fallacies connected with paper currency, when that question used to be much discussed some time ago, were coming up again in the discussions on a duplicate currency and a fixed ratio between gold and silver. He could not agree with the last speaker, who looked on gold and silver as not being commodities. All other articles were ranged in a certain order of value as measured in terms of money, but it did not follow that gold was therefore not a commodity; on the contrary, it was pre-eminently a commodity which, with respect to all others, had a specific name, because from the very nature of its use it was in opposition to all other commodities. Gold and silver were not required for themselves, except, of course, as regards their use in the arts. The whole endeavour of men engaged in the production of articles was to bring them together in commerce, and to balance commodities by commodities, only using money for the payment of the ultimate balances, and the more trade extended, the greater became the facilities for making these interchanges, and the less money in any specific form became necessary. If they could attain complete prescience and adapt supply exactly to demand, a reserve of money would not be required at all. As it is, they had to keep up, especially as a reserve, a considerable amount of the commodity most generally available in all parts of the world of commerce. When there was an over-production of gold and silver they must expect to have some of the inconvenience which they used to experience from an over-use of paper. He agreed with Mr. Probyn that it was impossible to trace out the great changes through which the precious metals had passed, especially in those countries where gold was habitually used as a reserve by the people at large. In India the reserve consisted principally in bangles and personal ornaments, and in times of famine or scarcity these articles came in in the place of other reserves from the vast mass of poorer population, who were, after all, the great *consumers* of the precious metals. At present they had to encounter the difficulty of having different standards in different parts of the world, but he did not believe that any fixed ratio could ever be established by any effort of legislation, and any attempt to fix such a ratio would be productive only of confusion and instability in a more aggravated form.

Mr. Probyn, in reply, said that Mr. Beeton had stated that the measure of value was the amount of legal tender money, but to his mind the measure of value was not the legal tender money, but the commodity gold or silver, whichever it might be. The measure of value was not sovereigns or half sovereigns, but the general commodity, gold, and with a proper monetary system you could turn gold, or silver, or whatever it might be, into legal tender money.

Mr. Sauerbeck seemed to think that 30,000,000*l.* would not be sufficient to put India on a gold basis, but in the evidence taken before Lord Herschell's committee, Sir James McKay's idea was that 15 millions would be enough, and Sir David Barbour 20 millions, this being the largest figure given. It must be remembered that the great mass of the people were comparatively poor, and would not use gold for currency; and Sir David Barbour's idea, which he shared, was that the currency of India should remain silver, merely being supported by gold, so that gold might become the only measure of value. He thought that the best opinions were that 30 millions would be quite sufficient for this purpose. As Mr. Sauerbeck knew, in Java the gold value was supported without any gold at all. All that was wanted to ensure a gold value was to be able to turn the current money into the standard, but that could not be done without withdrawing the current money from circulation. Therefore unless there were more money to put into circulation to take its place, such an exchange would not be wanted. In Java and the West Indies the exchanges all went on perfectly well without any gold, although they were really on a gold basis. All that gold was wanted for was to be able to withdraw any redundant token currency, or on the other hand to be able, should the token currency be insufficient, to place an increased supply of that currency on the market.

Mr. SAUERBECK said that 30 millions might possibly be sufficient if all in circulation was a known fixed quantity, as was the case in Java, which moreover was financed by Holland, a rich country with the same standard, and where the florin sent from Java was legal tender; but beyond these 128 crores supposed to be in circulation, there was an unknown quantity of rupees hoarded, perhaps 50 or even 100 crores, and these would cause considerable difficulty.

Mr. PROBYN said that that was an important point to which he wished to draw attention. The researches made by Mr. F. C. Harrison, to which he alluded, were most important, and had shown clearly what the amount of circulation in India was. Mr. Harrison had also, after very careful investigation, come to the conclusion, and Sir David Barbour agreed with him, that the total amount hoarded was about 30 crores. The truth of that had been proved in the last few months. If these great hoards of coined rupees had been in existence when the coined rupee was worth more than 2*d.* more than the silver of which it was made, they would have been bound to come out, but instead of that only 3 crores came out during the last eighteen months. The conclusion was that the amount of 50 crores was an over-estimate. The most popular way of hoarding silver in India was to melt it down and turn it into bangles and personal ornaments, and it was in that form that the 400 crores existed, and not as money. With regard to the suggestion of Mr. Cornish that the ratio of gold and silver should be 10 to 1, he was quite certain that if that ratio were established no one would be foolish enough to pay a debt with 1 oz. of gold if he could pay it with 10 ozs. of silver.

The CHAIRMAN (Sir RAWSON W. RAWSON) then proposed a cordial vote of thanks to Mr. Probyn for his paper, which was carried unanimously.

On the RELATIONS *of* ECONOMIC SCIENCE *to* PRACTICAL AFFAIRS. ADDRESS *to the* ECONOMIC SCIENCE *and* STATISTICS SECTION *of the* BRITISH ASSOCIATION, *held at* IPSWICH, 1895. *By* L. L. PRICE, M.A., PRESIDENT *of the* SECTION.

AT the Oxford meeting of the British Association a report was presented on the "Methods of Economic Training in this and "other Countries,"[1] the general conclusion of which pointed to a deficiency in this country in the organisation of instruction and in the recognition given by the examinations of the Universities, of the public service, and the legal profession. In the spring of the present year Mr. Goschen, presiding at a dinner of the Economic Association, commented[2] on the inopportune contempt of the practical man for economic reasoning at a time when many of the questions engaging public attention were economic in character. The phenomena thus noted may be connected, and a disregard of economic reasoning explained by a lack of systematic economic instruction. At any rate, the members of this Section will scarcely feel more certain of the fact that the questions of the day are largely economic in character than of the illumination obtained by an acquaintance with Economic Science and Statistics. They may not succeed in winning the attention of the practical man, but they are not unlikely to find solace in the flattering conviction that the loss is on his side, and not on their own. The proceedings of the Section in this and in previous years will prove beyond dispute that, whether or not the practical man troubles himself to ascertain or to follow the opinion of the professors, the professors are not seldom busy in the consideration of the practical questions of the day.

I make this assertion with the more boldness because it requires no extraordinary keenness of vision to detect signs in the practical man of a disposition hardly consistent with the scorn he is prone to bestow. I believe that, in spite of what we may regard as his worse impulses, he manifests a growing inclination to seek counsel—and even imperatively to demand guidance—on social and political problems from economic professors. I do not know how otherwise to explain the fact that a well-known firm of

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[1] See "Report of the British Association for 1894."

[2] See "Economic Journal" for June, 1895, vol. v, No. 18, p. 301.

London publishers has issued, and, I imagine, found it profitable to issue, a series of books on social subjects which now numbers upwards of eighty volumes. Many of these books may not be scientific in character, but so large an issue, taken in conjunction with other significant circumstances, such as the recent revival of a desire for economic lectures on the part of the clients of University Extension, does afford some presumption in favour of a fresh growth of popular interest. Indeed, I have heard more than one practical man complain, not that it was unreasonable to look for guidance in economic matters from economic experts, but that, with every disposition to hear the advice of professors, it was impossible to obtain it. This complaint may or may not be founded on reality; but the professors may be pardoned if they regard it as a sign of a more wholesome condition of mind. The complaint may be due to the fact that the guidance sought is not such as the professors can offer, and that the advice, which they are able and ready to give, is considered inadequate or superfluous.

I am going to address myself to the audacious task of endeavouring to indicate by actual example the guidance which the economic professor may furnish to the practical man on the questions of the day; and I have prefaced my attempt with these observations to show that I am aware of the hazard and difficulty attendant. Were I to seek for an appropriate metaphor to describe my venture, I might find it by saying that I was about to disturb a hornets' nest; and, if I am fortunate enough to escape with the scornful neglect of the practical man, I am afraid that the professor may be less compassionate, and that his sting may prove as venomous. I may, perhaps, plead in excuse that it is at once the traditional privilege and the inherited duty of occupants of presidential chairs to devote their observations especially to that part of their science with which they have been most closely connected. I have certainly endeavoured on the one hand to bestow a considerable portion of my time on the scientific study of economics as expounded in systematic treatises, and, on the other, my occupation as College Treasurer has forced me into intimate contact with the hard facts of at least one department of practical life. I would not for one moment claim that this dual experience gives me any title to speak with authority on the relations of economic science to practical affairs; but it has determined the grooves in which my thoughts have mainly run, and, so far as I may presume to a special acquaintance with any department of economic speculation, it is with that which concerns the bearing of theory on practice. Without unbecoming arrogance, I may, perhaps, think that I possess in not very disproportionate measure the failings of the practical man and the academic professor; and in this capacity I undertake the task before me.

Before considering some particular questions of the day we may determine the general character of the guidance offered by economics in matters of practice. I believe that in this connection economists must disclaim a pretension to strict neutrality. Much, no doubt, may be urged in support of the claim, and considerable advantages might follow from its successful establishment. The cool examination of heated questions in the dry light of science might seem the appropriate occupation of the academic professor. From the serene heights of tranquil speculation he might complacently look down on the heat and turmoil of affairs, and, standing apart from the conflict himself, refuse to assist any combatant. But the strict maintenance of this attitude is a "counsel of "perfection" and a practical impossibility. The student must be more or less than human who, dealing with a department of knowledge so intimately related to the welfare of humanity, can avoid, as the result of his scientific inquiry, forming a favourable view of one course of conduct and an adverse opinion of another, and endeavouring to promote the former, and to hinder the latter, both by advice and by act. He cannot be content to observe the connection of cause and effect without trying to set in motion the cause or to restrain its action. He cannot acquiesce in the speculative solution of a problem without being impelled to embody his theory in practice. He cannot contemplate the misery due to bad economic arrangements without seeking to devise and apply a remedy; and, viewing the matter historically, the practical object of benefiting their fellow-creatures has been at least as powerful a motive with great economic thinkers as the speculative aim of enlarging the boundaries of knowledge. They have been reproached for hardness of heart and dulness of imagination, and the popular account is prone to regard them as dry and unfeeling; but the description is a travesty of the facts, and their errors have probably been due as often to excess as to lack of enthusiasm. The recurring contrast of wealth and poverty, of careless ease and careworn want, of lavish indulgence and narrow penury, has awakened as responsive a chord in their hearts as in that of the most ardent and generous socialist; and it is impossible to run over the conspicuous names on the roll of economic worthies without being impressed by the warmth of their zeal for social reform, and the intensity and persistence of their anxiety to remove or mitigate human suffering. The "economic man" of popular description, whether or not he occupy a place in economic theory, is no portrait of the economist of actual historical fact. The name of "dismal science," so often misapplied, was suggested not so much by the suppression of human interest as by the apparent destruction of cherished hopes. The science was "dismal," not, as popular usage interprets the phrase, because it was dry and uninteresting, but because it seemed to counsel despair; and even then the title partook of caricature.

Nor do I think that in this connection an attitude of strict neutrality is desirable, if it be possible. The besetting sin of the academic temper is indecision, and few errors are more mischievous in practical affairs. An obstinate regard for neutrality may easily beget indecision, and from that moment the economist becomes ineffectual for practice. I must confess to the belief that the practical man has a right to demand an opinion on economic points from the academic professor, and that the professor has a claim to take part in the guidance of economic affairs which is derived from his scientific study. He is an expert, and it is no less his duty than his privilege to discharge an expert's functions. He cannot, as it seems to me, properly evade the one or abnegate the other. He may be careful in forming his judgment. He may conscientiously endeavour to assign its due weight to every circumstance. He may remember and insist that in many practical problems other aspects besides the economic must be considered. But the economic is often of great, and sometimes of paramount, importance; and on this he cannot disown the responsibility of making up his mind without, as it seems to me, forfeiting his own self-respect and his usefulness to others. From that moment his neutrality vanishes. He may, and probably will, incur an opprobium which he might have avoided by a refusal to adopt a decisive opinion. He may sacrifice a quiet and ease which he might have retained. But, whether our aim be the correct conduct of affairs or the due recognition of economic science, I cannot doubt that he has chosen the better part. To insist on a strict neutrality for economists in matters of practice seems to me idle and misleading. It is idle, because the economist is human, and economics is concerned with some of the most important interests of human welfare. It is misleading, because it is the duty of the economic expert to offer guidance on economic points, and there are at all times few practical questions which do not present an economic side. Certainly at the present juncture, when the pressing problems of the hour are in many cases distinctly and admittedly economic in character, to attempt a divorce between theory and practice is especially inopportune. It is an impossible endeavour to saw a man into separate quantities; and I would claim for the appropriate description of every great economist the epitaph on the tomb of the German socialist, "Ferdinand Lassalle, thinker and fighter." We need not abandon the thought, but it should stimulate, and not paralyse, the action; for the one is not fully complete until it is realised in the other. Economics is indeed a science, and on that ground claims a recognised place in the programme of this Association; but it is essentially, as I think, an applied, and not a pure, science, and the economist has only fulfilled part of his mission when he has solved a speculative problem. I am aware that this contention may not be admitted by many academic professors and practical men, but I believe that it is in accord with historical tradition, and admits of logical justification.

Yet, if an attitude of strict neutrality be impossible and ineffective, the opposite extreme of dogmatic assertion is as undesirable as it is dangerous. The older economists have been often charged with an error of this nature; and it cannot be denied that the accusation rests on a basis of truth, though it has sometimes been couched in exaggerated form. Certainly the modern economist is inclined to state his opinion with less assurance; and for that very reason he has lost some of his influence on practical affairs. For the practical man has a sneaking affection, and even respect, for dogmatic assertion. At any rate, he desires a plain, direct, and concise answer to his questions, and it is not easy to distinguish between an avoidance of dogmatism and an appearance of indecision. Nor can it be denied that, as a discipline of the mind, a study of the more abstract reasonings of some of the older writers, which generally presented the semblance, and sometimes offered the reality, of a precise, defined, consistent whole, is both wholesome and stimulating. Legal authorities now pronounce inadequate Austin's "Lectures on Jurisprudence," but I must confess that I look back to my first acquaintance with them as an epoch in my mental history. I believe that they acted as a tonic and purgative, clearing away obscurity and stimulating intellectual effort. If I may say so, the effect of reading such an author as James Mill is not unlikely to be similar in the case of the young economic student; and for that reason, were there no other, I should personally regret the exclusion from a systematic economic course of the study of some of the more rigidly abstract reasonings of some of the more strict of the older economists. Such study may be regarded as a propædeutic, through which the student should pass; and he will lose, and not gain, by its omission. The regimen may be somewhat severe, and the diet, so far as the moment is concerned, not very nutritious; but the system is braced and the digestion strengthened.

The fact, however, is that the more famous of the older economists were themselves less abstract and precise than they are represented in common opinion. They took a keen and constant interest in the practical questions of their time. Their speculative opinions were largely influenced by the prominent facts of their day. The acumen of later, and even contemporary, criticism has discovered gaps in some of their reasonings and inconsistencies — which perhaps do them honour—in some of their arguments. Recent economic analysis certainly endeavours to bring within its range a larger number of facts, to be more explicit in stating and repeating the assumptions on which it proceeds, and to be more cautious in establishing conclusions and definite in limiting their application. But the change is largely due to the increasing complexity of the facts; and the difference in the mode of approaching and method of handling a question is one of degree rather than kind. The particular problems which confronted the older writers admitted more often of a plain dogmatic answer; and, if the deliberations of the later economist be more comprehensive and protracted, his conclusions need not on that account be indecisive. Indeed, with the lapse of time, the necessity and advantage of expert advice have grown more obvious and urgent.

What then is the general character of that advice? The answer may seem a truism, but it is surely this. As in other departments of study, the mission of the scientific economist is to discern, and to assist others to recognise, the unseen. He is not content with a superficial view. He endeavours to penetrate below the surface of affairs and discover the invisible forces. He employs telescope and microscope to bring within the range of vision what is distant or unnoticed. He compels the practical man to pay attention to something more than the obvious and immediate consequences of the policy he is pursuing; and the chief advantage of economics as part of a scheme of general education seems to consist in inducing a habit of mind which will not be satisfied with superficial explanation. And it induces this habit in matters with which men and women are brought into close and necessary contact in the ordinary routine of everyday life. They may flatter themselves that common sense alone is needed to deal with such matters, and that no scientific training or aid is required. Economics dispels this subtle and dangerous illusion, and furnishes an instrument which at once controls and strengthens common sense. Nor is this claim for economics as a discipline of the mind and as a guide in matters of practical conduct by any means novel. It was put forward with prominence by Bastiat, whose writing is sometimes regarded as an illustrative example of the application of orthodox economics to the treatment of an important practical question. It has been recently adduced by the Duke of Argyll, who, dissatisfied with what he considers orthodox economics, attempts to supply its defects by disclosing the "Unseen Foundations of Society." The arguments and conclusions of Bastiat may not be accepted, the criticisms of the Duke may be refuted, by contemporary economists, who may claim the title of orthodox, if they desire an epithet which seems to bring as much opprobium as honour; but they would certainly agree with the earlier exponent and the later critic, who, curiously enough, have not a little else in common, in regarding the mission of economics as an endeavour to see, and to reveal to others, the unseen.

That such a description is no barren truism, that economics thus conceived may shed illumination on dark or obscured problems, that it may prove, in Bacon's language, not merely *lucifera*, but also *fructifera*, may, I think, be shown by a brief consideration of some typical questions of the day.

I. Few are more prominent than that of industrial strife. We deplore its occurrence, and are ready to welcome any promising means suggested for mitigation or prevention. Nor does popular opinion refuse to economics a voice in the matter; but, on the contrary, its authority is continually invoked. What, then, in accordance with the principles we have sought to establish, is the guidance which it can offer? Are there any common beliefs which it may show to be superficially founded? Few assertions certainly are more frequent than that the interests of employers and employed are harmonious, and that disputes involve a disturbance of this fundamental harmony. On the other hand, few facts are more obvious than that employer and employed regard their interests as essentially antagonistic, and from this antagonism the disputes have arisen. Economics is able to show that either view expresses a portion, and only a portion, of the truth; and, by the systematic mould in which its reasoning is cast, it brings into clear relief the relation of the complementary truths.

In the production of wealth the interests of the parties harmonise, for, with the modern organisation of industry they require the services of one another, and, the more efficient they respectively are, the larger is likely to be the wealth produced. It is the interest of the employer that the wages earned by the men should be adequate to maintain, and, if possible, to increase, their efficiency; and it is the interest of the employed that the profits of the *entrepreneur* should encourage enterprise and induce a sufficient supply of capital. For production—and this is a point which economics, and economics alone, can duly emphasise—is the ultimate source of the wealth distributed. The larger the amount produced, the larger, *cœteris paribus*, is likely to be the share of either party in distribution; and in any event it is certain that a decreased production must issue in effects on distribution, the burden of which will fall, though in varying measure, on either party. The influence thus exerted on distribution by production is one which workmen seem especially likely to forget, and many of the common arguments in favour of "making work," or providing "employment for the unemployed," proceed from ignorance or neglect of this consideration.

On the other hand, it may be urged that employers are not very keen to recognise the influence, whether for advantage or drawback, of distribution on production. No doubt the division of economics into separate departments tends to make even the student forget their mutual connection. We do not remember constantly that production and distribution are simultaneous, and are only distinguished for purposes of convenient analysis. Yet one of the most important advances of recent economics consists in the emphasis given to the influence of distribution on production; and we see more clearly than our predecessors how the poverty of the poor, by begetting inefficiency, may cause their poverty, and high wages may imply, not a high, but a low, cost of production. Either of these truths may be pushed to excess; but they are certainly fraught with important consequences, and have an intimate bearing on the question before us. But, like the influence of production on distribution, the telescope of the economist is needed to bring and retain them within the range of ordinary vision.

The full and constant recognition of these truths conduces to a more comprehensive conception of the possible results of industrial disputes. We can see, on the one hand, that a victory for the moment may not prevent defeat in the long run, and that loss, which is obvious at the time, may issue in ultimate gain. When we remember that to discern these distant results the naked eye of the plain observer seems incompetent without the aid of the economic organon, we are as ready to recognise the likelihood of industrial conflict as we are anxious to devise the means of preventing it. For in the distribution of wealth the apparent interests of the two parties are antagonistic, and, given the amount produced, the larger the share of the one, the less will be that of the other. The frank recognition of this possible antagonism is the first step towards the prevention of its natural consequences. The imminence of the possibility supplies the strongest motive for removing unnecessary hindrance, and furnishing likely assistance, to a pacific agreement. And, whatever the final consequences of a dispute to the interests of either party, the existence of friction and irritation is beyond question an injury and hindrance to production. The loss thus occasioned is immediate as well as distant, and may be considerable; but, if the telescope of the economist is generally needed to bring sufficiently close the ultimate effects of industrial disputes, his microscope is sometimes required to magnify the results of friction to dimensions which will attract and retain the attention of the ordinary observer. By discovering these deeper considerations beneath the superficial appearance of affairs, economics may furnish useful guidance in the prevention and adjustment of industrial disputes.

For to what conclusion do these considerations lead? To the discovery of some machinery which may prove not unacceptable, and yet, by imposing delay on the outbreak of strife, may allow the two parties to hear what either has to urge, and to consider the possible consequences of the action they are proposing to take. Such a machinery may be discovered in boards of conciliation and courts of arbitration. The fact that both sides should be organised on a sufficiently responsible basis to send accredited representatives; the fact that, thus meeting one another, they are compelled to seek and adduce reasons for their own position and to listen to the arguments in support of their opponents; the fact that delay and deliberation are recognised preliminaries to the commencement of war—these facts may not appear important in themselves, but they offer a chance of pacific adjustment, and afford opportunity for the consideration of ulterior issues. They prevent the apparent interests of the moment from winning an undisputed victory over the less obvious interests of the future; and they do not allow an advantage in distribution to be secured without thought of the effects on production. On the other hand, the antagonism of interests incident to the distribution of wealth, when the production is regarded as a given quantity, suggests that the machinery may on occasions break down, and that the arrangements should properly consist of different stages and provide supplementary resources; for arbitration may succeed in adjusting a dispute to which conciliation has proved incompetent, and conciliation may conceivably be useful where arbitration has been ineffectually tried. Such antagonism also suggests that voluntary adhesion is likely to be more abiding than compulsion, and more conducive to the permanent interests of peace, and that to prevent the occurrence, or reduce the likelihood, of industrial conflict, a traditional standard of settlement, changed in grave emergencies or serious vicissitudes alone, should be established in the trade and recognised as fair.

For economics, as it seems to me, can do little more than point out those ultimate and obscure consequences which are concealed by immediate superficial appearances; and it is not in possession of a precise principle or rule, which can be definitely applied to the determination of industrial disputes. Could it, indeed, furnish such a rule, the argument in favour of the legal bestowal of compulsory powers on courts of arbitration and boards of conciliation would gain considerable strength; for it must be remembered that the questions before them are not the interpretation of past contracts, such as are habitually submitted to the Continental Conseils de Prud'hommes, but the establishment of agreements for the future, and it is difficult to force parties to agree when you do not supply a principle of agreement, nor does it on the whole seem likely to conduce to conciliatory relations to declare that, while you will not compel masters and men to agree, you will compel them to abide at all hazards by the agreement to which they may come. For these reasons, tempting as it undoubtedly is to invoke legal compulsion, I believe that the State can do little more than supply facilities for voluntary agreement, and, exercising, perhaps, some gentle persuasion, leave the pressure of public opinion to induce recourse to machinery thus provided. Such I take to be the drift of competent experienced opinion and the probable scope of effective legislation; and such, as it seems to me, is the kind of guidance which economics can offer on this practical question.

II. In a town like Ipswich we are forcibly reminded of another question of the day—I mean agricultural depression. From the Reports of the Assistant Commissioners to the Royal Commission, it would appear that the county of Suffolk shares with its neighbour, Essex, an unenvied pre-eminence among districts which have suffered, and that the present condition of this important industry borders here on despair. In the actual words of Mr. Wilson Fox, the Assistant Commissioner, agriculture in Suffolk "is well-nigh strangled."[3] Can economics throw any light on this lamentable situation? If there is one theory which is supposed to be more remote from fact than another, it is the theory of rent. It is the fashion, even with professed economists, to regard it as unduly abstract; and in a recent address[4] to a learned society connected with this Section by no distant ties, the President selected the theory as a conspicuous example of older formulæ laid aside. The account of the theory given in that address is open to question, but the ground of rejection is worthy of note. Lord Farrer, it would seem, condemns the theory because it is a "formula useless for practical purposes." This criticism raises the question we are now considering; for we are trying to ascertain the guidance which economic science can furnish in practical affairs. That it has an important, and, indeed, a necessary, relation to practice we have asserted in positive terms; but the relation is not, as we think, that which Lord Farrer apparently assumes. For economics does not furnish precepts or formulæ immediately applicable to practice; but it supplies systematised knowledge, the possession and employment of which will afford assistance in the direction of practical affairs. The theory of rent is not, then, a maxim of conduct, but a rational explanation of fact. Conceived thus, in my own experience as College Treasurer, I have been struck by its pertinence, not its inadequacy. It has certainly seemed to me that, on a broad view, the tenant considers the rent to be properly that which is left when, on an average of years, he has reaped a fair profit and paid his labourers the wages they command. The landlord, so far as I have been able to discover, occupies in his eyes the position—to use language differently applied[5] by General Walker—of a "residual claimant;" and such, also, as I read the theory, is the place which he fills therein.

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[3] *Cf.* Report, p. 82.

[4] *Cf. Journal of the Royal Statistical Society*, vol. lvii, part iv, December, 1894, pp. 595, &c.

Nor is it difficult to interpret part of the present depression in conformity with the theory of rent. I must take leave to dissent from Lord Farrer when he asserts that the formula, even in its older shape, paid no regard to situation or to means of transport; and I am disposed to affirm that the emended statement of recent text-books, in which these considerations, with others mentioned by Lord Farrer, receive explicit recognition, is not so much a departure from the older form as a development and extension of it. But, taking the two points of fertility and situation alone, it is the agreement, and not the conflict, of what has happened with what the theory might have led us to expect that is likely to impress. It can hardly be doubted that one of the most remarkable changes of recent years has been the development of the means and reduction of the cost of transportation. This change implies a loss of the advantage derived from proximity to the market in the case of commodities which admit of conveyance from a distance. Interpreted in the language of the theory of rent, English land, as respects certain products, has forfeited part of the natural protection afforded by its situation near to the market. With the partial loss of this advantage has also disappeared part of another, for the diminution in the cost of transportation has opened European markets to the virgin soils of America and other countries; and, with regard to products which admit of conveyance from a distance, the fertility of English land, whether it be due to the skill of generations of comparatively high farming or to natural qualities of soil, has lost part of its advantage. In the language of the theory of rent, the forfeiture of these two advantages involves depression in the sense of a decrease of rental; and, as it seems to me, the adequacy rather than deficiency of the theory is evident as a rational explanation of fact.

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[5] *I.e.*, to the wage earner. *Cf.* "Political Economy," by F. A. Walker, part iv.

Nor is it useless for practical guidance. The fact which it establishes is a connection between cause and effect, and not a maxim of conduct; for the laws of economics, like the laws of every science, are, as it has been aptly expressed, statements in the indicative and not the imperative mood. But the possession of the scientific knowledge of the causal connection is more likely than its absence to conduce to prudent practice. In the instance before us the conclusion seems inevitable that, so far as the depression is due to foreign competition, and the virginity of competing soils, and facility of transportation, continued attention to products, which must be conveyed to their market quickly, is likely to be more profitable in an old country like England than the continued production of commodities, which can be raised to greater advantage on newer soils, and be easily transported from considerable distances. I am aware that this is a hard saying, that necessary conditions of cultivation, sometimes neglected, must be taken into account, and that such a change as is often contemplated in such discussions may mean a painful and difficult departure from traditional habit, and an apparent sacrifice of inherited or acquired skill. It is easy to talk glibly of the English farmer abandoning the cultivation of cereals, at any rate as a staple product, and turning his attention to vegetable and dairy produce, to fruit-raising and poultry-rearing and bee-keeping, and the various other modes of making a fortune which are put forward for his edification. But the lesson of economic theory is plain so far as the depression is due to foreign competition and the maintenance of a Free Trade policy is assumed.

I do not discuss the latter question, because it is far too large to be adequately treated in a paragraph or two, and is excluded from practical politics by the leaders of political parties; but it is certainly a question on which economics may reveal the unseen. Among those invisible facts may perhaps be placed a circumstance often neglected in popular discussion. In many arguments on agricultural depression the landed interest is treated as strictly separable from the rest of the community, and a fall in rent is regarded as the loss to a particular class of an advantage enjoyed apart from exertion.

If I may say so in passing, some of the abundant popular use made in recent years of the conception of rent as an unearned increment seems to me to afford an example of the misapplication of theory to practice. For in not a few instances what has happened is this: a theory resting on nice distinctions has been crudely applied to practice, and the distinctions employed to prescribe a definite policy without regard to their nicety. In other words, the theory has been used as a precise maxim, which could be straightway embodied in practice, and not as a scientific conception, the knowledge of which might protect the practical man from hidden pitfalls.

In England, at least so far as agricultural land is concerned, the landlord is usually a partner with the tenant, and, whether or not the system be better than that of occupying ownership, it is certain that part of the rent is a return for expenditure, and not a payment for natural qualities of soil or situation; and to this extent a fall in rent is likely to operate as a discouragement or preventive of the fresh and continuous expenditure needed to maintain the land and the buildings in a state of efficiency. I cannot doubt, in view of evidence given before the Commission on Agriculture, and of other signs, that the depression must have already produced deterioration in this respect, and thus have injuriously affected the economic position of the general community.

Nor is the landed interest strictly and entirely distinct. In an old country different classes are connected with one another by ties hard to disentangle, and impossible to sever without injury or danger. The educational endowments of the country, as a melancholy personal experience has taught me,[6] cannot regard agricultural depression with the complacency of disinterested observers. The effect on certain public institutions, like some of the London hospitals, is notorious; and it can scarcely be doubted that, though the prudent management by which they are characterised may have led many of the great insurance companies to write down their landed investments and withdraw from them as they are able, yet they have been, and are, largely interested in the fortunes of landed property, and perhaps especially in the rentals of landlords, on the security of which they have made advances. With the stability of the insurance companies is linked the preservation of perhaps the bulk of the savings of the professional classes. In short, in an old country a strict separation between the interests of different classes is only true with large deductions.

III. But economics also raise and solve the doubt whether depression in agriculture can be attributed to foreign competition alone. It is a significant fact that, according to authoritative accounts, many of the competitors of the English farmer have not escaped the distress from which he has suffered; and in

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[6] *Cf.* papers read by the present author to the Royal Statistical Society in February, 1892, and January, 1895.

England the depression, in spite of constant reductions and abatements, has exerted an influence on profits scarcely less grievous than that on rents. These circumstances certainly lend weight to the contention that the fall of prices, which is not peculiar, though perhaps especially discouraging, to agriculture, is partly due, to state the matter in the least controversial shape, to a change in the general relation between the supplies of gold and the monetary work that it is required to perform. To the discovery of a cause like this, hidden from superficial view, and to the indication of the manner in which it may affect the position of agriculture and other industries, economics, by virtue of its mission to discern the unseen, is peculiarly competent. I do not propose to enter now at any length on the vexed question of the currency, but it is certainly a prominent practical question of the day. It is a question on which the economist may claim to speak with authority, and the practical man may demand, as he may be expected to follow, the definitive guidance of expert opinion. On this question, perhaps, in particular, the unassisted vision of the naked eye may form erroneous conclusions, and derive no little profit from the use of the optical instruments provided by the economist.

I cannot preface what I propose to say more appropriately than by a quotation from Jevons. In that pamphlet on "A "Serious Fall in the Value of Gold,"[7] which has attained the rare dignity of an economic classic, commenting on the alarmist anticipations of Chevalier and Cobden, he remarks that the alteration in the value of gold consequent on the discoveries in California and Australia would probably be "most gradual and "gentle." "Far from taking place with sudden and painful "starts, flinging the rich headlong to a lower station, and shaking "the groundwork of society, nothing is more insidious, slow, and "imperceptible. It is insidious because we are accustomed to use "the standard as invariable, and to measure the changes of other "things by it; and a rise in the price of any article, when "observed, is naturally attributed to a hundred other causes than "the true one. It is slow because the total accumulations of gold "in use are but little increased by the additions of any one or "of several years. It is imperceptible because the slow rise of "prices due to gold depreciation is disturbed by much more "sudden and considerable, but temporary, fluctuations which are "due to commercial causes, and are by no means a novelty." I propose to apply briefly these remarks of Jevons to some aspects of the controversy which has arisen on the cause of the fall of prices of the last twenty years.

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[7] *Cf.* "Investigations in Currency and Finance," pp. 78, 79.

It is, for example, sometimes asserted that the influence of credit on prices is so considerable as to reduce to unimportance a decrease in the available supplies of gold. It may at once be admitted that the modern extensive development of credit obscures the relation between the metal and prices; but it does not destroy it, and, according to the view we have been trying to emphasise, the mission of economics is to remove this veil of obscurity. In this instance it may show that the relation is not unreal because it is indirect; that credit, expanding and contracting of itself owing to increasing or diminishing speculative activity, is yet limited and controlled in its movements by the changing dimensions in the basis of cash on which it rests; and that, through the bank reserves meeting or restricting the demands for petty cash and permitting an expansion or causing a curtailment of credit, the supplies of the standard metal exert an important influence on prices.[8] Economics may thus furnish a rational account of the *modus operandi*, and statistics supply corroborative evidence. This evidence, indeed, may be said to amount to ocular demonstration, for no one who has studied with moderate attention the course of a curve of general prices over a period of time, drawn in accordance with the graphic method of statistics, can have failed to distinguish the different character of the fluctuations thereby shown—to have separated the more obvious and pronounced fluctuations of credit, marking the flow and ebb of confidence, from the minor passing changes due to some temporary accident of demand and supply on the one hand, and, on the other, from the general trend of the curve indicating a growing abundance or scarcity in the available supplies of the standard metal. This is a broad influence, the operation of which is only discernible on a comprehensive view; but the graphic method of statistics brings it within the range of ordinary vision, and the reasoning of economics discloses the connection of the phenomena. The influence of credit is apparent on the surface, but the deeper influence can be detected beneath; and, if the general level of one credit cycle be higher or lower than another, the change points to the presence and action of some less obvious cause. In a modern commercial society, with its development of banking and credit, we are able to observe and to measure cause and effect. At the one end of the process we possess statistics of the production of gold, and can frame estimates of the amount and character of extraordinary demands.[9] At the other end we can employ, in the form of index numbers, as they are called,[10] a means of measuring changes in general prices, which is certainly adequate to show the direction of the change, if it is not competent to indicate its precise amount. For the connection between cause and effect we look to economic reasoning, which here, as elsewhere, enables us to discern the unseen.

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[8] *Cf.* Giffen's "Essays in Finance," second series, II.

[9] To some extent also this is true of the changes in the ordinary demands, but the stress of the argument may be laid on the extraordinary demands.

A similar test may be applied to the adequacy of some other causes. It is sometimes said that a complete explanation of changes in general prices can be discovered in the particular circumstances of individual commodities, without any reference to a common cause. The answer is evident on the principles we have been endeavouring to establish. Those particular circumstances lie on the surface, and the common cause is only apparent if we penetrate beneath. Here, again, economics is aided by statistics. Economics can recognise and explain the operation of a common cause in enhancing or diminishing the effect of particular circumstances, and statistics can offer corroborative evidence of the presence of such a cause. For the very meaning and intention of a statistical average is to eliminate the influence of particular causes, and therefore the testimony of those index numbers, in which an attempt is made to exhibit the average change in prices, is adequate to establish the influence of some common cause, if the basis on which they are constructed be sufficiently comprehensive and typical. It can scarcely be doubted that this criterion is satisfied in the case of some of the best known varieties. The presence of that common cause, it must be remembered, does not imply the absence of other contributory or counteracting causes; and the inquirer in the region of the moral and political sciences is always beset by difficulties arising from the plurality of causes. But, if he can establish the presence of a common cause competent to produce the effect, and can point to the effect which has been produced, the argument for the connection between the two attains that high degree of probability which is all that we can expect to reach. In the instance before us statistics may show the presence of this common cause and the occurrence of the effect, and economics may indicate the competence of the cause to produce the effect. We know that until recently the production of gold had declined from the level reached in the middle of the century, and we are aware that a series of extraordinary demands[11] had coincided, while various index numbers are in general agreement in exhibiting a fall in prices, though the degree of the fall shown in each case may vary.[12] The economic theory of supply and demand may, then, be used to establish the connection between cause and effect; for, if the supply of a commodity declines while the demand for it increases, a rise in its value, and a fall in the value of articles compared with it, become inevitable. Such has been the position of gold during the last twenty years.

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[10] *Cf.* those compiled by the "Economist," Mr. Palgrave, Mr. Sauerbeck, Dr. Soetbeer, and Sir Robert Giffen.

[11] *E.g.*, on the part of Germany, the United States, the Austro-Hungarian empire, and Russia.

It may be noticed that the possibility of a plurality of causes increases the likelihood of the action of some common cause; for, under the conditions, we cannot expect the apparent effects of this cause to be immediate or universal. The presence of counteracting or modifying circumstance, of opposing or contributory causes, will delay in some cases a process accelerated in others, will minimise here an effect which is accentuated there. The apparent change due to the cause is only likely to be general and not universal, to be gradual and not immediate. The assertion that a fall in prices, if due to an alteration in the available supplies of the standard metal, should be immediate and universal cannot be sustained when economics, penetrating beneath superficial appearance, reveals the interaction of different causes; and, if the testimony of index numbers points to a general change, it is no sufficient answer to affirm that it is not universal. On grounds of economic reasoning we should expect a slower movement of retail than of wholesale prices, of the prices of articles of minor than of those of more general consumption, of wages than of prices generally.

The mention of wages suggests another point neglected in some current discussions, but brought by economic reasoning from obscurity into prominence. It is sometimes asserted that the fact that wages have not fallen is a proof that monetary causes have not produced the fall of prices. But, apart from the known tendency of wages to move more slowly than prices, such an assertion overlooks the possibility of a simultaneous change in distribution. Economic reasoning points to the probability of such a change in favour of the wage earner, and to the effect that it would produce; and statistical evidence corroborates that reasoning.[13] If such a change be proceeding, we should expect wages to rise, and the fact that they are stationary tends to prove, not to disprove, the existence of a monetary cause of the fall of prices. A failure to give explicit recognition to this possibility is due to neglect of the plurality of causes, and is akin to another argument sometimes advanced. This maintains that, if it can be shown that the country has progressed, or not receded, in wealth, in the development of trade and manufacture, in the prosperity of the mass of the community, it is thereby proved that the fall of prices has wrought no injury. But it may be answered that the progress might have been greater in the absence of the fall, and other forces may have prevented the cause in question from producing its full effect. Here, again, economic reasoning may aid in discerning what is invisible to the unassisted eye.

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[12] An index number may be briefly described as a mode of showing the average change in prices by comprising in one grand total the percentages of rise or fall shown in the recorded prices of certain selected typical commodities.

[13] *Cf.* the investigations of Sir Robert Giffen in England, of M. Leroy-Beaulieu in France, and of other inquirers in other countries.

Few truths, indeed, are slower to receive, and more likely to lose, popular recognition than those which lay stress on the mutual action of different causes. We are told, for instance, that the fall of prices is due to circumstances connected with improvements in the production and transportation of commodities; and it must be admitted that such a common cause is not, like particular causes affecting individual commodities, eliminated in the general average of the index numbers. But the one common cause—that of improvements in production—does not exclude the operation of the other—that of a change in the available supplies of gold. Taking a broad view of the whole century, it would certainly seem that the movement of improvement has set steadily in one direction, but that the movement of prices has first declined, and then advanced, and then declined again. It is possible that the movement of improvement may have been accelerated and retarded at different times; but the change in the movement of prices, which requires explanation, is not a variation of degree, but a reversal of direction. And this reversal coincides with similar changes in the available supplies of the standard metal. If the disturbances in America at the beginning of the century, with the known diminution in production, were followed by a fall, if the Californian and Australian discoveries of the middle of the century were accompanied by a rise, and if the notorious extraordinary demands since 1873, statistically computed by Sir Robert Giffen,[14] coming on a supply which until the past few years was diminishing, coincided with a fall again, it seems impossible to doubt that, although improvements in production and transportation may have been contributory causes, an important influence has been exerted by the monetary supplies. With the aid of the economic telescope and microscope forces too remote or obscure to be detected by the naked eye are thus brought within the range of ordinary vision; and the action of the standard metal on prices is one of those forces, for, in Jevons's language, it is "insidious, slow, and imperceptible."

Such is the guidance which, as it seems to me, economics is able to offer; and in this question of the currency, as in the others of which we have treated, it is surely not destitute of practical import, for the detection of a monetary cause of the fall in prices is so far an argument for the adoption of a monetary remedy. Such guidance, also, I believe, economics can furnish on many other questions coming to the front; and, in offering this, it cannot be accused of an excessive or defective estimate of its claims to popular recognition. I am convinced that, as the years elapse, its aid will be sought with increasing urgency, and that it will discharge, with a fuller consciousness of its high prerogative, its important but difficult mission of seeing for itself, and disclosing to others, the unseen.

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[14] In evidence given before the Gold and Silver Commission, and, more recently, before the Commission on Agriculture.

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I.—*Incidence of Taxation on the Income of an Individual in France.*

AN interesting inquiry has been contributed to the Statistical Society of Paris[1] by M. Beaurin-Gressier, as to the proportionate amount of the total yearly expenditure of an ordinary Parisian family which is paid in direct or indirect taxes to the Government. M. Beaurin-Gressier's objects are to particularise as far as possible the total amount of these taxes, and the diverse elements of which they are composed; while he also endeavours to distribute this total among the various recipients (State, department, commune, &c.).

His household consists of nine persons, father, mother, three sons from 14 to 19 years of age, two daughters of 11 and 16, and two servants. His annual income slightly exceeds 20,000 frs.,[2] and is composed of an official salary and certain patrimonial revenues, chiefly derived from land. His family may thus be described as in easy circumstances; but on account of his expenses he can only maintain a balance on the right side of his budget by rigid economy. His luxuries consist in the possession of an old family house in the country, and in being able to prolong the period of his children's education somewhat beyond the time that would be possible for those with smaller incomes.

These data established, he has produced all his accounts for the year 1894, kept with the most minute and exact detail. It must be borne in mind that the results apply only to the particular family under consideration.

The expenses are divided into 150 headings, which are themselves grouped into seventeen chapters—lodging, nourishment, clothing, furniture, travelling, amusements, education, &c. Then the various items of expenditure have been expressed in taxable units, that is to say, in measures of weight, volume, value, &c., according to the commodity, in order to be able to specify what amount of taxation is imposed on each unit. The real difficulty was to separate that part of the price paid which represents taxation. It therefore became necessary to draw up a list of those taxes which are collected for the benefit of the State, department, commune, or public establishment, to indicate the tariffs belonging to each separately, and to particularise the manner in which they are applied. The taxes may be divided into three categories:—

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[1] *Journal de la Société de Statistique de Paris*, July, August, and October, 1895.

[2] As the results of the calculations throughout this article in many cases represent very minute sums, it has been considered preferable not to convert them into English currency.

I. *Taxes Paid directly by the Taxpayer.*

These are the direct contributions and taxes whose amount is paid direct to the collector; among them also are special taxes paid on the performance of certain acts, such as receipt stamps, gun and game licences, stamped paper, &c.

II. *Taxes corresponding to a service rendered.*

From the fact that a sum of money is paid to the State, or to the municipality, it must not on that account be considered as a tax. In addition to the general services which the State is bound to discharge, viz., justice, police, defence against invasion, &c., it also renders services which have a more special character and which require pecuniary remuneration. Those accordingly who are benefited have to pay; the total expense of these services falls on the person benefited, and must include the actual cost of the service rendered. But it must not on that account be confounded with the tax properly so called; the surplus alone, that is to say the profit which the State reserves for itself, is of this character.

Services of this nature, which form an important basis of the financial resources of the State, are, according to circumstances, rendered by direct official administration or by delegating the requisite authority to some other person or body. Certain services, whose industrial character is however quite apparent, are absorbed in the public service and give rise to fiscal monopolies, either of manufacture or of sale (*e.g.*, tobacco, matches, gunpowder, playing cards). Posts and telegraphs and the State railways are managed by direct Government administration. The greater number of railways and undertakings connected with public vehicles, and the production of gas, enjoy special privileges from the State. All these enterprises, whether they leave a direct profit to the public budget or not, must recoup themselves for their expenditure, and depend for commercial success on the prices charged to the public. It is consequently necessary to disentangle from their working expenses the share of fiscal dues which they have to support. These dues are in fact paid by the public under the name of taxes.

To arrive at the amount which in these cases constitutes a tax, it would usually be sufficient to subtract the expenses of such an undertaking from the receipts, the remainder being considered as a tax. In many cases there are, however, certain other payments, direct taxes, &c., &c., to be taken into consideration, so that the calculation is not quite so simple. As an example of the method adopted, it will be sufficient to quote the calculations made by M. Beaurin-Gressier in the case of the Post Office and gas.

(1.) *Posts and Telegraphs.*

	frs.	frs.
Total Receipts	—	201,859,676
„ Expenditure	148,851,214	—
Less $\frac{9}{10}$ths of the sum of 25,476,958 frs. (subventions to maritime services and mail boats)	22,929,262	125,921,952
Difference		75,937,742

Here the service rendered costs 125,921,952 frs.; what the State receives in excess of this. *i.e.*, 75,937,724 frs., consequently represents a tax; and the proportion paid in taxation is therefore $\frac{75,937,724}{201,859,676} \times 100 = 37{\cdot}62$ per cent.

(2.) *Gas.*

[From the statement of accounts presented to the shareholders of the gas company. Year 1894.]

(1.) *Municipal Charges.*

	frs.
Rent of the ground under the streets	200,000
Lighting and maintenance of public lamps	1,186,938
Share in the profits	8,250,000
Total	9,636,938

Number of cubic metres of gas delivered for consumption 300,823,710. Hence, cost per cubic metre = $\frac{9,636,938}{300,823,710}$ frs. =	0·032
Charge of 2 centimes per cubic metre consumed in Paris	0·02
Total	0·052

On the other hand, the approximate number of cubic metres of gas consumed at Paris for street lighting is 28,000,000.

The price of the cubic metre of gas, after deduction of the fiscal dues, being 0·2366 fr., and the municipality only paying 0·15 fr., we can assume that private individuals indirectly pay the difference, viz., 0·0866 fr. Hence—

0·0866 fr. × 28,000,000 = 2,424,800 frs.,

which must be distributed proportionally to the 232,000,000 cubic metres consumed by private

individuals. Hence— $\frac{2,424,800}{232,000,000}$ =	0·01
Total municipal charges	0·062

(2.) *State Charges.*

	fra.
Subsidy	6,000
" Impositions "	974,662
Stamp for titles	144,201
Tax on revenue	1,048,160
Total	2,173,023

Therefore the amount paid to the State per cubic metre is $\frac{2,173,023}{300,823,710} = 0\text{·}0072$ fr.

(3.) *Customs.*

The duty on coal being 1·20 fr. per ton, and the price of a ton being taken at 20 frs., the whole duty on the 20,214,487 tons consumed in the manufacture of gas is—

$$\frac{20,214,487 \times 1\text{·}20}{20} = 1,212,869 \text{ fr.}$$

The duty per cubic metre is therefore—

$$\frac{1,212,869}{300,823,710} = 0\text{·}0040 \text{ fr.}$$

Summary of charges on the price of a cubic metre of gas at Paris:—

	fr.
(1.) Municipal charges	0·0620
(2.) State dues	0·0072
(3.) Customs	0·0040
Therefore in every 0·30 fr. paid for a cubic metre there is included a tax of	0·0732

It will be noticed that in the second case account has to be taken of the taxes paid on the unmanufactured article before the product is ready for consumption.

III. *Taxes with regard to which the Sellers of the Commodities are more or less directly the Collectors of the Dues.*

This is the most complex and difficult portion of the work, for here the tax takes a great variety of shapes, and is so much split up as to reach nearly all manifestations of activity on the part of the taxpayer. It is concealed behind the persons who furnish the produce, and who, in rendering certain services, become to some degree its collectors. In this class are to be placed indirect contributions, customs and octroi dues.

Taxes on articles of consumption, being most easily distinguished, may be examined first; they are of all indirect contributions the least open to criticism, because they make the taxpayer, whom they are intended to reach, bear the cost of the duties, and afford him the possibility of computing their real incidence, and even of escaping them if he abstains from purchasing the articles. The column headed " State " in Table A (pp. 618—25) gives the indirect contributions, the column "Octroi" all taxes which are included in the octroi tariff of the city; the column "Customs," those which pay customs duty.

These last have a double end in view: (1) to provide funds for the Treasury, and (2) to benefit certain so-called national industries.

The consequence of the protective tax is that the consumer always has to pay the customs duty even though the article may never have crossed the frontier; only the duty, instead of *going* into the chests of the Treasury, goes into the pockets of the so-called national and accordingly privileged producer. Protection exerts its full influence over all commodities which cannot be produced in sufficient quantities in the country to satisfy the demand, but ceases to act when the home production exceeds the needs of the consumers, and when the market exports instead of imports the commodity. In this last case prices conform to those of the general market. Thus, the price of raw sugar in France depends on the markets of London and Hamburg, because it is produced in excess, but refined sugar, on the contrary, is always maintained at a higher level than in foreign markets, to the extent of at least 8 frs. per 100 kilogrammes, which is the amount of the protective duty.

The difficulty of obtaining even approximate figures in the case of such articles as clothing was enormous, and M. Beaurin-Gressier accordingly had recourse to the following mode of procedure. Prior to 1880 the import tariff for articles of clothing was based on their value. At this date the *ad valorem* duties were transformed into specific duties on the weight or the volume. He has taken the values current before 1880; and, as the change in the duties was intended to realise an increase in their amount, and as this increase was, on the whole, strongly accentuated in 1890, he claims that he cannot be accused of exaggeration in placing on the table the values of the original tariff with regard to articles of clothing.

Similarly, the amounts under the head of furniture, crockery, glassware, &c., have been dealt with according to the old tariff, in which the duty was levied on the value.

In the classification as given in Table A will be found an immense list of articles which have to pay in so many different ways by means of customs duties, octrois, and such indirect contributions, that some of them end by having to support, under the name of taxation, one-fifth of their ultimate cost, as in the case of bread, one-half in the case of wine and petroleum, and even two-thirds in the case of sugar.

The first chapter of the table is headed "Lodging." Here the expenses are divided into two parts, one on account of the country house, the other for the flat in Paris. For the country house the charges enumerated in the first section only comprise an estimate of the probable rent which the head of the family would have to pay if he were not the owner, and the taxes always paid on house property. For the apartments at Paris, besides the expenses paid directly by the head of the family, is to be found the cost of rent, water rate, stair carpet, insurance, and the taxes caused by these expenses. The total expenses under this head of the family under consideration, including the probable rent of the country house, amount to 4,111 frs. 40 c. The taxes included in this amount to 916 frs. 40 c., so that the proportion representing taxation is 22·29 per cent.

The expenses of food are the most numerous and important, and the principal difficulty was met in apportioning them according to the various taxable units. It is to be noted that the price of each unit refers to the retail price, already largely augmented by the intervention of the middle man, and that the proportional part of the tax in the final price is thereby diminished; also that inferior articles of food have to bear just as heavy a duty as those of superior quality, so that a wealthier family, consuming better and more expensive food, would pay proportionally less in taxes, the proportion varying inversely as the price of the goods bought. For the whole expenditure on food the proportion which represents taxation is 20·65 per cent. (expenses 6,157 frs. 85 c., taxes 1,271 frs. 44 c.).

The amount of taxation which is paid on heating and lighting is more easily ascertained. It amounts to 24·47 per cent. in the case of gas, 52 per cent. in the case of petroleum, 38·88 per cent. for candles, 77 per cent. for matches. And it must not be forgotten that all these calculations are made on the retail trade price.

The whole taxation on fire and light comes to 27·30 per cent. (expenses 888 frs., taxes 242 frs. 41 c.).

The following table is a summary of the detailed Table A, and shows the amount of taxation on each class of commodity, in so far as it can be determined.

How Expended.	Total Expenditure.	Distribution of Taxes.				Per Cent. of Taxation in Expenses.
		State.	Communal and Departmental.	State and Privileged (Customs).	Total.	
CHAP.	frs. c.	frs. c.	frs. c.	frs. c.	frs. c.	frs. c.
I. Lodging	3,111 40	446 49	469 91	—	916 40	29 45
II. Provisions	6,157 95	272 64	322 00	676 80	1,271 44	20 65
III. Fire and lights	888 00	35 68	170 90	35 83	242 41	27 30
IV. Clothing	1,975 00	—	—	212 65	212 65	10 77
V. Kitchen and household	79 30	—	0 42	5 59	6 01	7 58
VI. Furniture	300 00	—	—	37 00	37 00	12 33
VII. Perfumery	55 00	2 79	1 20	4 05	8 04	14 62
VIII. Travelling	965 00	195 14	17 43	10 85	223 42	23 15
IX. Amusements	396 00	219 30	31 00	—	250 30	63 21
X. Presents	120 00	10 30	—	2 59	12 89	10 74
XI. Sundries	70 10	66 80	3 30	—	70 10	100 00
Totals	14,117 75	1,249 14	1,016 16	985 36	3,250 66	23 02

The second table (B) contains a specification of services remunerated by means of fees, salaries, gratuities, &c., and here it is impossible to distinguish the incidence of taxation. If it is a question of the remuneration of special services such as those of the laundress, hairdresser, doctor, dentist, &c., it may fairly be taken that the taxes these people are called upon to pay are reckoned in the cost price of the services they render. Payments of this nature have been grouped together apart from the rest, and no attempt has been made to estimate what proportion represents taxation.

M. Beaurin-Gressier sums up his interesting investigation as follows:—

The expenses of the head of the family for the year 1894, including the probable rent of the country house, amount to 21,700 frs.

They are composed of the following items:—

Expenses corresponding to services rendered or produce where the incidence of taxation is relatively easy to ascertain, 15,117 frs. 75 c.

Those which correspond to salaries or donations, 6,582 frs. 25 c.

From the total of the first of these divisions it has been possible to extricate 3,250 frs. 66 c., which represent taxes paid, and which can be subdivided as follows:—

	frs.
State (various contributions)	1,249·14
Commune or various public establishments	1,016·16
State or persons privileged (customs)	985·36
Total	3,250·66

Of the 985·36 frs. representing customs duties, about 100 frs. go directly to the State, being levied on foreign produce which cannot be produced in France. The greater part of the remainder corresponds to that proportion of the dues which are divided among various privileged persons who enjoy the benefit of being protected by an import duty.

As shown in the above table, of the whole annual expenditure, 23·02 per cent. represents the share of the State. If 1,000 frs. be added to the expenses as representing the estimated value of the rental of the country house (which is taxed, but does not otherwise figure among the expenses), the proportion is reduced to 21·50 per cent.

Amongst the general conclusions, concerning the propriety of various methods of taxation, which M. Beaurin Gressier deduces from his statistics, the following extract is perhaps the most interesting:—

The taxes most open to criticism are those which are supposed to protect certain industries. The total amount of these taxes, which are hardly perceptible, if not quite invisible, because they do not enter the chests of the Treasury or figure in any account, doubtless exceeds 80,000,000*l.* per annum. The protective import duty on corn alone represents more than 20,000,000*l.* As the total receipts of the State are somewhere about 140,000,000*l.* a year, the charges which a protective policy necessitates amount roughly to nearly two-thirds of the total. If this crushing burden could be made to disappear, the productive capacity of all the regular taxes would be augmented to an extent quite unhoped for, a surplus would re-appear, and with it the possibility of lightening the taxation which is opposed to real economy, and which obstructs and hinders trade and commercial intercourse so absolutely essential to the prosperity and expansion of a great nation.

TABLE A.—See next page.

TABLE B, SECTION II.—*Services Remunerated by means of Payments in which are included the Taxes paid by the Persons rendering the Services.*

How Expended.	Total Expenditure.
CHAPTER XII.—*Lodging.*	frs.
Repairs to country house	200
Repairs to furniture	50
Hire of piano	30
Total	280
CHAPTER XIII.—*Clothing.*	
Washing and dyeing	600
CHAPTER XIV.—*Health.*	
Hairdresser	35
Baths	200
Doctor and dentist	200
Chemist	200
Mineral waters	30
Total	665
CHAPTER XV.—*Intellectual culture.*	frs. c.
Boys' school	1,500 00
Masters for girls	1,000 00
Learned societies	90 00
Newspapers	50 00
Books	50 00
Stationery	25 00
Total	2,715 00
CHAPTER XVI.—*Wages.*	
Servants	1,350 00
Workwomen	145 00
Total	1,495 00
CHAPTER XVII.—*Sums given.*	
Presents, gratuities, &c.	300 00
Charity	100 00
Pocket money for children	400 00
Total	800 00
Sum estimated for omissions	27 25

TABLE A.—*Expenses of a Parisian Family*

[Family of nine persons: Father, Mother, three

SECTION I.—*Services or Products giving rise to Taxes*

	Articles Bought.	Unit of Taxation.	Rate of Taxation.			
			State.	Communal and Departmental.	State and Privileged (Customs).	Total.
	CHAPTER I. *Lodging.* (*a*). *Country House.*		frs. or %	frs. or %	frs. or %	frs. or %
1	Land tax	Variable	—	—	—	—
2	Door and window tax	,,	—	—	—	—
3	Personal property ,,	,,	—	—	—	—
4	Fire insurance	Value	10%	—	—	10%
5	Dog tax	Per head	—	8·00	—	8·00
6	Billiard tax	,, table	6%	—	—	6·00
	(*b*). *Apartments at Paris.*					
7	Personal property tax	Variable	—	—	—	—
8	Door and window ,,	,,	—	—	—	—
9	Rent Proportional share of land tax	,,	—	—	—	—
10	Proportional share of street cleansing	,,	—	—	—	—
11	Proportional share of gas rate	,,	—	—	—	—
12	Water rate	Municipal stamp.	—	0·25	—	0·25
13	Carpet	,,	—	—	—	—
14	Fire insurance	Value	10%	—	—	10%
	Total	—	—	—	—	—
	CHAPTER II. *Provisions.*					
15	Bread	Kilogramme	—	—	0·07	0·07
16	Flour	,,	—	—	0·16	0·16
17	"Pâtes"	,,	—	—	0·16	0·16
18	Unsweetened pastry	,,	—	—	0·16	0·16
19	Gingerbread	,,	—	—	0·10	0·10
20	Beef	,,	—	0·09735	0·25	0·34735
21	Mutton	,,	—	0·09735	0·32	0·41735
22	Pork	,,	—	0·09735	0·12	0·21735
23	Lard	,,	—	0·09735	0·12	0·21735
24	Poultry	,,	—	0·30	0·20	0·50
25	Game	,,	—	0·18	0·20	0·38
26	Sausages and bacon	,,	—	0·2277	0·25	0·4777
27	Pies	,,	—	0·36	0·60	0·96
28	Fish	,,	—	0·40	0·20	0·60
29	Oysters	Dozen	—	0·22	0·018	0·238
30	Salt	Kilogramme	0·12	0·06	—	0·18
31	Sugar	,,	0·60	—	0·08	0·68
32	Confectionery	,,	0·60	—	0·08	0·68
33	Jam	,,	0·30	—	0·04	0·34
34	Sweet biscuits	,,	—	—	0·40	0·40

in 1894, *and Taxes Borne by it.*

Sons (19, 17, 14), two Daughters (16, 11), two Servants.]

whose Final Incidence is relatively easy to determine.

Total Expenditure.	Number of Units Taxed.	Amount of Taxes. State.	Communal and Departmental.	State and Privileged (Customs).	Total.	Per Cent. of Taxation in Expenses.	
frs. c.		frs. c.	frs. c.	frs. c.	frs. c.		
202 15	—	74 12	128 03	—	202 15	100·00	1
61 05	—	29 30	31 75	—	61 05	100·00	2
260 60	—	114 69	145 91	—	260 60	100·00	3
30 00	Value	2 73	—	—	2 73	9·10	4
8 00	1	8 00	—	—	8 00	100·00	5
6 00	1	6 00	—	—	6 00	100·00	6
219 00	—	122 66	96 34	—	219 00	100·00	7
37 60	—	20 60	17 00	—	37 60	100·00	8
2,200 00	—	64 12	50 38	—	114 50	5·20	9
							10
							11
20 00	—	—	0 50	—	0 50	2·50	12
20 00	—	—	—	—	—	—	13
47 00	—	4 27	—	—	4 27	9·09	14
3,111 40	—	446 49	469 91	—	916 40	29·45	
	frs. c.						
550 00	1,572 kilogrammes at 0 35	—	—	110 00	110 00	20·00	15
16 00	20 „ „ 0 80	—	—	3 20	3 20	20·00	16
51 00	60 „ „ 0 85	—	—	9 60	9 60	18·82	17
65 00	50 „ „ 1 30	—	—	8 00	8 00	12·30	18
6 50	6·500 „ „ 1 00	—	—	0 65	0 65	10·00	19
1,128 00	470 „ „ 2 40	—	45 75	117 50	163 25	14·47	20
150 00	60 „ „ 2 50	—	5 84	19 20	25 04	16·69	21
108 00	45 „ „ 2 40	—	4 38	5 40	9 78	9·05	22
36 00	20 „ „ 1 80	—	1 95	2 40	4 35	12·08	23
120 00	30 „ „ 4 00	—	9 00	6 00	15 00	12·50	24
50 00	10 „ „ 5 00	—	1 80	2 00	3 80	7·60	25
450 00	94 „ „ 4 80	—	21 40	23 50	44 90	9·98	26
25 00	5 „ „ 5 00	—	1 80	3 00	4 80	19·20	27
60 00	10 „ „ 6 00	—	4 00	2 00	6 00	10·00	28
30 00	20 dozens „ 1 50	—	4 40	0 36	4 76	15·87	29
9 00	30 kilogrammes „ 0 30	3 60	1 80	—	5 40	60·00	30
220 00	200 „ „ 1 10	120 00	—	16 00	136 00	61·81	31
10 00	2 „ „ 5 00	1 20	—	0 16	1 36	13·60	32
16 00	8 „ „ 2 00	2 40	—	0 32	2 72	17·00	33
110 00	55 „ „ 2 00	—	—	22 00	22 00	20·00	34

TABLE A.—*Expenses of a Parisian Famil*

	Articles Bought.	Unit of Taxation.	Rate of Taxation.			
			State.	Communal and Departmental.	State and Privileged (Customs).	Total.
	CHAPTER II. *Provisions—Contd.*		frs. or %	frs. or %	frs. or %	frs. or %
35	Pastry	Kilogramme	—	—	0·40	0·40
36	Coffee	„	—	—	2·08	2·08
37	Tea	„	—	—	2·08	2·08
38	Chocolate	„	—	—	1·00	1·00
39	Pepper	„	—	—	2·08	2·08
40	Vanilla	„	—	—	4·16	4·16
41	Nutmegs	„	—	—	3·12	3·12
42	Cinnamon	„	—	—	2·08	2·08
43	Cloves	„	—	—	2·08	2·08
44	Mustard	„	—	—	0·15	0·15
45	Potatoes	„	—	—	0·004	0·004
46	Rice	„	—	—	0·08	0·08
47	Chestnuts	„	—	—	0·03	0·03
48	Fresh vegetables	„	—	—	0·06	0·06
49	Dried „	„	—	—	0·03	0·03
50	Preserved „	„	—	—	0·16	0·16
51	Fresh grapes	„	—	0·0576	0·08	0·1376
52	Oranges	„	—	—	0·05	0·05
53	Apples and pears	„	—	—	0·05	0·05
54	Other fresh fruit	„	—	—	0·03	0·03
55	Dried raisins	„	—	0·3186	0·15	0·4686
56	Almonds and nuts	„	—	—	0·03	0·03
57	Prunes	„	—	—	0·10	0·10
58	Other dried fruits	„	—	—	0·05	0·05
59	Milk	Litre	—	—	0·025	0·025
60	Butter	Kilogramme	—	0·1440	0·06	0·2040
61	Cheese	„	—	0·114	0·15	0·264
62	Cream cheese	„	—	—	0·15	0·15
63	Eggs	„	—	0·042	0·06	0·102
64	Wine	Litre	0·0825	0·1062	0·07	0·2587
65	Beer	„	0·0375	0·15	0·05	0·237
66	Brandy, liqueurs	„	0·93125	0·3990	0·35	1·68
67	Vinegar	„	0·05	0·18	0·06	0·29
68	Pickles	„	0·05	0·12	0·06	0·23
69	Salad oil	Kilogramme	0·15	0·524	0·12	0·794
70	Restaurant	Value	—	5%	5%	10%
	Total	—	—	—	—	—
	CHAPTER III. *Fire and Lights.*					
71	Gas	Cubic metre	0·0072	0·062	0·0040	0·073
72	Coal	100 kilogrammes	—	0·72	0·12	0·84
73	Petroleum	Litre	—	0·216	0·10	0·316
74	Spirits of wine	„	—	0·216	0·10	0·316
75	Candles	Kilogramme	0·30	0·24	0·16	0·70
76	Matches	Price paid	77%	—	—	77%
	Total	—	—	—	—	—

in 1894, and Taxes Borne by it—Contd.

Total Expenditure.	Number of Units Taxed.	Amount of Taxes.				Per Cent. of Taxation in Expenses.	
		State.	Communal and Departmental.	State and Privileged (Customs).	Total.		
frs. c.	frs.	frs. c.	frs. c.	frs. c.	frs. c.		
60 00	30 kilogrammes at 2·00	—	—	12 00	12 00	20·00	35
173 00	31 „ „ 5·60	—	—	64 48	64 48	37·27	36
20 00	2 „ „ 10·00	—	—	4 15	4 15	20·75	37
70 40	22 „ „ 8·20	—	—	22 00	22 00	31·25	38
9 60	2 „ „ 4·80	—	—	4 15	4 15	43·23	39
3 00	20 grammes „ 0·15	—	—	0 09	0 09	3·00	40
1 70	250 „ „ 0·068	—	—	0 78	0 78	45·88	41
1 70	250 „ „ 0·068	—	—	0 52	0 52	30·58	42
1 55	250 „ „ 0·062	—	—	0 52	0 52	33·55	48
9 00	3 kilogrammes „ 3·00	—	—	0 45	0 45	5·00	44
84 00	700 „ „ 0·12	—	—	2 80	2 80	3·33	45
6 00	10 „ „ 0·60	—	—	0 80	0 80	13·33	46
5 00	10 „ „ 0·50	—	—	0 30	0 30	6·00	47
170 00	170 „ „ 1·00	—	—	10 20	10 20	6·00	48
45 00	90 „ „ 0·50	—	—	2 70	2 70	6·00	49
150 00	75 „ „ 2·00	—	—	12 00	12 00	8·00	50
20 00	20 „ „ 1·00	—	1 15	1 60	2 75	13·75	51
10 00	12·500 „ „ 0·80	—	—	0 62	0 62	6·20	52
5 00	10 „ „ 0·50	—	—	0 50	0 50	10·00	53
15 00	30 „ „ 0·50	—	—	0 90	0 90	6·00	54
5 00	2·500 „ „ 2·00	—	0 80	0 37	1 17	23·40	55
4 00	2 „ „ 2·00	—	—	0 06	0 06	1·50	56
6 00	6 „ „ 1·00	—	—	0 60	0 60	10·00	57
15 00	30 „ „ 0·50	—	—	1 50	1 50	10·00	58
360 00	1,200 litres „ 0·30	—	—	30 00	30 00	8·23	59
140 00	50 kilogrammes „ 2·80	—	7 20	3 00	10 20	7·28	60
39 00	15 „ „ 2·60	—	1 71	2 25	3 96	10·15	61
100 00	50 „ „ 2·00	—	—	7 50	7 50	7·50	62
288 00	160 „ „ 1·80	—	6 72	9 60	16 32	5·66	63
825 60	1,500 litres „ 0·55	123 75	159 30	105 00	388 05	47·04	64
66 00	110 „ „ 0·60	4 12	16 50	7 70	28 32	43·00	65
45 00	15 „ „ 3·00	13 97	5 98	5 25	25 20	56·00	66
6 50	10 „ „ 0·65	0 50	1 80	0 60	2 90	44·61	67
3 00	2 „ „ 1·50	0 10	0 24	0 12	0 46	15·33	68
25 00	20 kilogrammes „ 1·25	3 00	10 48	2 40	15 88	63·52	69
160 00	Price paid	—	8 00	8 00	16 00	10·00	70
6,157 95	—	272 64	322 00	676 80	1,271 44	20·65	
	frs. c.						
345 00	1,150 cubic metres at 0 30	8 28	71 30	4 83	84 41	24·47	71
360 00	80 cwt. „ 4 50	—	57 60	9 60	67 20	18·66	72
84 00	140 litres „ 0 60	—	30 24	14 00	44 24	52·67	73
7 00	10 „ „ 0 70	—	2 16	1 00	3 16	45·14	74
72 00	40 kilogrammes „ 1 80	12 00	9 60	6 40	28 00	38·88	75
20 00	50 boxes „ 0 40	15 40	—	—	15 40	77·00	76
838 00	—	35 68	170 90	35 83	242 41	27·30	

TABLE A.—*Expenses of a Parisian Family*

	Articles Bought.	Unit of Taxation.	Rate of Taxation.			
			State.	Communal and Departmental.	State and Privileged (Customs).	Total.
	CHAPTER IV. *Clothing.*		frs. or %	frs. or %	frs. or %	frs. or %
77	Father's clothes	Value	—	—	10%	10%
78	Boys' ,,	,,	—	—	10%	10%
79	Mother's ,,	,,	—	—	10%	10%
80	Girls' ,,	,,	—	—	10%	10%
81	Hats	,,	—	—	10%	10%
82	Linen	,,	—	—	15%	15%
83	Boots and shoes	Pair	—	—	1·50	1·50
84	Gloves	,,	—	—	0·10	0·10
85	Haberdashery	Value	—	—	15%	15%
86	Umbrellas	,,	—	—	10%	10%
	Total	—	—	—	—	—
	CHAPTER V. *Kitchen and Household.*					
87	Soft soap	Kilogramme	—	—	0·06	0·06
88	Marseilles soap	,,	—	—	0·06	0·06
89	Mineral ,,	,,	—	—	0·06	0·06
90	Blacking	,,	—	—	0·04	0·04
91	Carbonate of soda	,,	—	—	0·019	0·019
92	Beeswax	,,	—	0·842	0·08	0·50
93	String	,,	—	—	0·30	0·30
94	Solution of chlorine	Litre	—	—	5%	5%
95	,, copper	,,	—	—	5%	5%
96	Potash	Kilogramme	—	—	Free	—
97	Black lead	,,	—	—	,,	—
98	Whitening	,,	—	—	,,	—
99	Pumice stone	,,	—	—	,,	—
100	Kitchen paper	,,	—	—	,,	—
	Total	—	—	—	—	—
	CHAPTER VI. *Furniture.*					
101	Wall-paper and curtains	Value	—	—	15%	15%
102	Glassware	,,	—	—	10%	10%
103	Crockery	,,	—	—	15%	15%
104	Kitchen utensils	,,	—	—	10%	10%
105	Cutlery	,,	—	—	15%	15%
106	Brushes	,,	—	—	10%	10%
107	Baskets	,,	—	—	10%	10%
108	Sundry articles of furniture	,,	—	—	10%	10%
	Total	—	—	—	—	—

in 1894, *and Taxes Borne by it—Contd.*

Total Expenditure.	Number of Units Taxed.	Amount of Taxes.				Per Cent. of Taxation in Expenses.	
		State.	Communal and Departmental.	State and Privileged (Customs).	Total.		
frs. c.		frs. c.	frs. c.	frs. c.	frs. c.		
340 00	Price paid	—	—	34 00	34 00	10·00	77
320 00	„	—	—	32 00	32 00	10·00	78
250 00	„	—	—	25 00	25 00	10·00	79
190 00	„	—	—	19 00	19 00	10·00	80
60 00	„	—	—	6 00	6 00	10·00	81
325 00	„	—	—	48 75	48 75	15·00	82
375 00	25 pairs at 15 frs.	—	—	37 50	37 50	10·00	83
55 00	29 „ „ 1 fr. 90 c.	—	—	2 90	2 90	5·27	84
30 00	Price paid	—	—	4 50	4 50	15·00	85
30 00	5 to 6	—	—	3 00	3 00	10·00	86
1,975 00	—	—	—	212 65	212 65	10·77	
	frs. c.						
25 00	50 kilogrammes at 0 50	—	—	3 00	3 00	12·00	87
8 00	10 „ „ 0 80	—	—	0 60	0 60	7·50	88
6 00	12 „ „ 0 50	—	—	0 72	0 72	12·00	89
6 00	24 boxes „ 0 25	—	—	0 25	0 25	4·00	90
1 00	10 kilogrammes „ 0 10	—	—	0 19	0 19	19·00	91
4 40	1 kilogramme „ 4 40	—	0 42	0 08	0 50	11·36	92
1 50	10 balls „ 0 15	—	—	0 15	0 15	10·00	93
6 00	30 litres „ 0 20	—	—	0 30	0 30	5·00	94
6 00	6 „ „ 1 00	—	—	0 30	0 30	5·00	95
12 00	30 kilogrammes „ 0 40	—	—	—	—	—	96
1 50	10 packets „ 0 15	—	—	—	—	—	97
0 50	10 pieces „ 0 05	—	—	—	—	—	98
0 40	1 kilogramme „ 0 40	—	—	—	—	—	99
1 00	Price paid	—	—	—	—	—	100
79 30	—	—	0 42	5 59	6 01	7·58	
70 00	Price paid	—	—	10 50	10 50	15·00	101
30 00	„	—	—	3 00	3 00	10·00	102
50 00	„	—	—	7 50	7 50	15·00	103
30 00	„	—	—	3 00	3 00	10·00	104
20 00	„	—	—	3 00	3 00	15·00	105
20 00	„	—	—	2 00	2 00	10·00	106
25 00	„	—	—	2 50	2 50	10·00	107
55 00	„	—	—	5 50	5 50	10·00	108
300 00	—	—	—	37 00	37 00	12·33	

TABLE A.—*Expenses of a Parisian Family*

	Articles Bought.	Unit of Taxation.	Rate of Taxation.			
			State.	Communal and Departmental.	State and Privileged (Customs).	Total.
	CHAPTER VII. *Perfumery.*		frs. or %	frs. or %	frs. or %	frs. or %
109	Toilet soap	Kilogramme	—	—	15%	15%
110	„ waters	Litre	0·93125	0·3990	0·35	1·68025
111	Various	„	—	—	—	—
	Total	—	—	—	—	—
	CHAPTER VIII. *Travelling.*					
112	Railway	Price paid	24·47%	—	0·187%	24·657%
113	Cabs	„	2·28%	6·47%	3·56%	12·31%
114	Omnibus	„	2·79%	6·75%	3·87%	13·41%
115	Various packages	Receipt stamps Price paid	0·70% 24·47%	—	0·187%	0·70 24·657%
116	Postage stamps Telegrams Telephone	Price paid	37·62%	—	—	37·62%
	Total	—	—	—	—	—
	CHAPTER IX. *Amusements.*					
117	Theatre	Price per seat	—	10%	—	10%
118	Tobacco	Price paid	82%	—	—	82%
119	Gunpowder	„	68%	—	—	68%
120	Game licences	Per licence	18·00	10·00	—	28·00
121	Playing cards	„ pack	0·625	—	—	0·625
	Total	—	—	—	—	—
	CHAPTER X. *Presents.*					
122	Toys	Value	—	—	10%	10%
123	Gold jewellery	Hectogramme	37·50	—	0·50	38·00
124	Silver „	„	2·00	—	0·50	2·50
125	Confectionery	Kilogramme	0·60	—	0·08	0·68
	Total	—	—	—	—	—
	CHAPTER XI. *Sundries.*					
126	Stamped paper	Per stamp	0·60	—	—	0·60
127	Receipt stamps	„	0·10	—	—	0·10
128	Extracts from Acts	Per extract	1·80	0·55	—	2·35
129	Examination expenses	„ examination	40·00	—	—	40·00
	Total	—	—	—	—	—

1894, *and Taxes Borne by it—Contd.*

Total Expenditure.	Number of Units Taxed.	Amount of Taxes.				Per Cent. of Taxation in Expenses.	
		State.	Communal and Departmental.	State and Privileged (Customs).	Total.		
frs. c.		frs. c.	frs. c.	frs. c.	frs. c.		
20 00	—	—	—	3 00	3 00	15·00	109
30 00	3 litres at 10 frs.	2 79	1 20	1 05	5 04	16·80	110
5 00	—	—	—	—	—	—	111
55 00	—	2 79	1 20	4 05	8 04	14·62	
50 00	Price paid	134 58	—	1 03	135 61	24·65	112
65 00	,,	3 76	10 68	5 87	20 31	12·31	113
00 00	,,	2 79	6 75	3 87	13 41	13·41	114
45 00	5 stamps at 70 c. Price paid	3 50 11 01	—	0 08	14 59	32·42	115
92 00 10 00 3 00	,,	39 50	—	—	39 50	37·62	116
65 00	—	195 14	17 43	10 85	223 42	23·15	
10 00	Price paid	—	11 00	—	11 00	10·00	117
05 00	,,	168 10	—	—	168 10	82·00	118
15 00	,,	10 20	—	—	10 20	68·00	119
56 00	2 licences	36 00	20 00	—	56 00	100·00	120
10 00	8 packs	5 00	—	—	5 00	50·00	121
96 00	—	219 30	31 00	—	250 30	63·21	
20 00	Price paid	—	—	2 00	2 00	10·00	122
60 00	20 grammes at 3 frs.	7 50	—	0 10	7 60	12·66	123
10 00	50 ,, ,, 20 c.	1 00	—	0 25	1 25	12·50	124
30 00	3 kilogrammes at 10 frs.	1 80	—	0 24	2 04	6·80	125
0 00	—	10 30	—	2 59	12 89	10·74	
	frs. c.						
6 00	10 sheets at 0 60	6 00	—	—	6 00	100·00	126
0 00	100 stamps ,, 0 10	10 00	—	—	10 00	100·00	127
4 10	6 extracts ,, 2 35	10 80	3 30	—	14 10	100·00	128
0 00	1 examination	40 00	—	—	40 00	100·00	129
0 10	—	66 80	3 30	—	70 10	100·00	

II.—*Raiffeisen (Agricultural) Banks in Germany, Italy, and Belgium.*[3]

The founder of the system of agricultural credit which bears his name, Herr Raiffeisen, was born in 1818. As burgomaster of the town of Flammersfeld, on the Rhine, he saw the necessity of freeing the small agriculturists from the usurers, in whose power the great majority were, and he accordingly devised the scheme of co-operative credit, which, developing slowly at first, has now become an important factor in the rural districts of many foreign countries, and particularly in Germany, its home. Raiffeisen was thus led to found the first of these associations, at Flammersfeld, in 1849.

There are two fundamental ideas underlying the system: the first is unlimited liability of the members, the second is that the district in which a bank's operations are carried on must be so small that all the members are acquainted with each other. Another essential point is that money is lent for comparatively long periods, usually for several years, as the object for which the loan is required can but rarely repay its cost in a shorter time. The banks serve a double object: they both lend money and accept deposits. At first there were no shares, but the Government afterwards insisted upon the banks issuing shares; to meet which, their amount was fixed as low as possible, and is in Germany about 10*s*.

Although in each country the existing legislation has necessitated certain variations in the actual conduct of the banks, still the original theory has everywhere been maintained in its integrity, and the following summary of the procedure adopted at present in Germany may be taken as typical of the institutions in other countries, with few modifications. Generally speaking, the State has interfered very little with these associations, but in Germany and Belgium they have been accorded certain advantages, and in Austria, to which country the system is also extending, the authorities are also giving some aid.

Each bank is managed by a Council of Directors, with a President and a Board of Control, all honorary; the accountant only is (sometimes) paid a small sum for his professional services. A bank in any given district—say a village or commune—may be formed at a meeting of the inhabitants, who simply elect the officers and notify the authorities. The association is then in working order. Money is obtained from the deposits and entrance fees of members, shares (of which no member can have more than one), "commission," and loans from ordinary banks. So strong are these "village banks," owing to every member being liable for all he is worth, that most banks are quite ready to lend sums to almost any extent at about 3 per cent. The interest demanded by these associations on the loans granted to their members is usually 4 per cent., that allowed on deposits being generally 3½ per cent. There is no speculation, the surplus from the difference between the interest received on loans and that paid on deposits being accumulated, after defraying the very moderate expenses of management, to form a reserve fund.

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[3] The information in this article is taken from the *Reports from Her Majesty's Representatives Abroad on the Raiffeisen System of Co-Operative Agricultural Associations* [C–7896]; from an article by F. de Smeyers in the *Revue Agronomique*, No. 2, 1895, so far as concerns Belgium; and from the *Journal of the Board of Agriculture*, No. 2, 1895.

In order to obtain a loan, a member must specify the object for which it is required, and must find a surety, who is responsible for its repayment, and who is consequently interested in seeing that the money is devoted to the specified purpose. A portion at least must be paid back annually. In granting the loans the directors take into consideration the character of the member, this being one of the essential features of the scheme, for, as noted above, the bank's sphere of operation is purposely so restricted as to render possible a mutual acquaintance of all the members.

Besides lending money and receiving deposits, the banks in Germany also act towards their members somewhat on the principle of co-operative stores, purchasing various agricultural requisites such as manures, fodder, &c., and retailing them to their members, generally through the "Administrative Union of Rural Co-operative Banks" (see below).

There is a Central Agricultural Credit Bank, with its headquarters at Neuwied, not far from Coblenz, to which the local banks, as described above, are affiliated. It was founded in 1877 as a joint stock company, for the purpose of granting pecuniary assistance to separate banking associations, and to receive deposits from associations having a surplus to dispose of. Each local bank takes one share (50*l.*), and is liable only for that amount. The original capital of this Central Bank amounts to 250,000*l.*; 110,350*l.* of this was paid up on 1st April, 1895. There were on the 1st May, 1895, 1,485 members (practically the local banks), situated mostly in provinces bordering on the Rhine and in Bavaria.

The balance sheet of the Central Bank for 1892 was as follows:—

Total receipts	£394,224
„ expenditure	393,999
Balance	225

Cr.	£	*Dr.*	£
By balance	224	To capital paid up	29,305
„ securities	41,023	„ deposits of the associations and private individuals	169,466
„ moneys lent to associations	189,167	„ caution money lodged by Comptroller-General ("Direktor")	750
„ outstanding in mortgages.	2,975	„ loan from Imperial bank..	25,000
„ payment for account current with the Imperial Bank	50	„ interest on above, less interest on securities and mortgages	347
„ value of movable property	60	„ Reserve capital—I	6,036
		„ „ —II	1,000
	233,499		231,904

The total amount of revenue and expenditure was—

	£
In 1890, about	450,000
" '91, "	600,000
" '92, "	800,000
" '93, "	1,100,000

There exists also an "Administrative Union of Rural Cooperative Banks" in connection with the Central Credit Bank: its special object being to examine the books of the societies which belong to it, and to undertake the organisation of the purchase and sale on the joint account of agricultural requisites and products. Others, such as viticultural associations, cooperative dairies, &c., besides agricultural credit associations, are received into this Union. The number of associations adhering to it at the end of 1893 was 1,199.

The business transacted by this Union is on a large scale; the total receipts in 1890 (when 623 associations belonged) being 1,314,752*l.*, and the expenses 1,238,107*l.*

In Italy the system is almost identical. The first rural association upon Raiffeisen's plan was founded in 1883, and though their number has in the last few years considerably increased, they are still almost confined to the valley of the Po. Here also they started with no capital, but were able at the outset to obtain loans from city and other banks, owing to their unlimited liability. But the rates of interest are here higher than elsewhere, and the associations generally charge their members 6 per cent. on the loans. Now that the system is becoming better known, however, there is a tendency on the part of some banks to lend to the associations at a somewhat lower interest, so that the latter can afford to lower their rate; besides which, the members' deposits are now accumulating. On these deposits 3½ per cent. is usually paid. No assistance whatever has as yet been granted to these associations by the Italian government. The increase in these banks is shown by the following:—

Year.	Number of New Banks.	Total at End of Year.
In 1889	5	42
" '90	1	43
" '91	9	52
" '92	39	91
" '93	45	136
" '94	98	234

"The number of members varies from 70 to 200, including usually all the heads of families in the particular district. Statistics show that one-half of the members of these Italian rural banks are very small peasants with less than 10 acres to cultivate, and only a few names are registered with more than 100 acres. It is not the quantity of assistance rendered that is remarkable, but the extreme poverty of many of those who seek it, and whom it keeps from misery and especially from usury.

"The financial situation of 136 of these rural loan banks, principally in Venetia, on the 31st December, 1893, was as follows:—

Assets.						Liabilities.			
Rents and Profits.	Reserve Fund.	Cash in Hand.	Money Lent to Members.	Money Invested at Interest.	Total.	Money Received on Deposit.	Borrowed from some large Bank.	Other Creditors.	Total.
£	£	£	£	£	£	£	£	£	£
1,053	1,745	2,463	60,395	1,360	67,016	31,815	27,250	2,355	61,420

"The following table shows the annual balance sheet of the Co-operative Rural Loan Bank at Loreggia:—

Assets.	Amount.	Liabilities.	Amount.
	£		£
Surplus cash in hand	—	Borrowed from City bank	120
Current accounts	27	Deposits for fixed periods	321
		Interest thereon	13
Loans to members	598	Savings deposits	43
Interest due from members	15	Interest thereon	1
		Sundry deposits	80
Reserve fund	60	Interest thereon	2
Total	700	Total	580

"The vast majority of the sums lent vary from 2*l.* to 15*l.*, loans over 50*l.* being extremely rare. The following list is taken as a specimen of the amount and object of loans from the annual statistics of one of these loan banks". Money may also be borrowed for "small industries": this refers to the encouragement of small subsidiary employments suited to the produce of the particular district, such as making straw hats, cane chairs, baskets, &c., work which is usually left to the women of the family:—

	Number of Loans.	Amount.
		£
1. For the purchase of cattle	30	568
2. " horses	5	49
3. " pigs	10	6
4. " sheep	30	18
5. " manure	40	180
6. " agricultural implements	28	41
7. " provisions	32	90
8. " parcels of land and for agricultural implements	19	380
9. For paying off old debts to usurers	12	160
10. " the construction of sheds	2	8

In Belgium also the associations are both loan and deposit banks. They can, if necessary, borrow up to a certain amount from the General Savings and Pension Bank (Caisse générale d'épargne et de retraite), through the intermediary of the local tax collector, the regulations having purposely been rendered as simple as possible, and certain facilities granted by the State. Although only started in 1891, by the efforts of the Abbé Mellaerts, there has already been a considerable development of these banks in Belgium, and in the spring of this year there were 25 in working order, whose operations may be summarised in the following table:—

Number of members of the 25 banks on 25th June, 1895....	796	
" loans granted	223	
	£	s.
Total amount of loans..	2,824	–
Average amount of each loan..	12	13
Total amount of deposits	5,534	–

The interest demanded on loans is 4 or 4½ per cent.; that granted on deposits is usually 3 per cent.

These statistics of the Belgian banks, which furnish details of objects for which loans are required, and also give the balance sheets of various banks, may usefully be compared with those of the Italian associations. The statistics for the *Rillaer* bank, the first founded, and still the most considerable, may be taken as a specimen:—

Particulars of Loans Granted by the RILLAER *Raiffeisen Bank*, 1891-95.

Object.	Number of Loans.	Total.		Average Amount of Each Loan.	
		£	s.	£	s.
1. Purchase of a cow............................	34	227	18	6	14
2. " an ox.....	5	53	–	10	12
3. " a plot of land	2	12	–	6	–
4. " a house........................	2	35	–	17	10
5. Repairs to a house	1	10	–	10	–
6. Extension of business	4	116	–	29	–
7. Payment of an old debt	5	60	–	12	–
8. Establishing a young couple in life	3	106	–	35	7
9. Expenses of sickness	1	10	16	10	16
Total........................	57	630	14	11	1

The time within which the loan must be repaid is usually from five to six years.

Rillaer *Bank, Statement of Receipts and Expenditure*, 1894.

Receipts.	£	s.	d.	*Expenditure.*	£	s.	d.
Balance from 1893	87	5	4	*Caisse générale d'épargne et de retraite*	40	–	–
Caisse générale d'épargne et de retraite	40	–	–	Member's share	–	4	10
Shares of members	1	8	10	Deposits repaid	69	18	8
Deposits in Society's Bank	98	3	10	Loans to members	139	14	7
Loans repaid	112	14	10	Interest on deposits	12	12	10
Interest on loans	20	7	8	Management expenses	1	3	7
Provisions	–	13	10	Balance	96	19	10
	360	14	4		360	14	4

Rillaer *Bank, Balance Sheet, 31st December*, 1894.

Assets.	£	s.	d.	*Liabilities.*	£	s.	d.
Cash in hand	96	19	10	Loan from *Caisse générale d'épargne et de retraite*	40	–	–
Post Office Savings Bank	–	4	–	Deposits of members	410	1	–
Furniture (safe), less depreciation	7	4	–	Members' shares	10	8	9
Loans to members	368	–	2	Interest and management expenses due	1	6	–
				Reserve fund (profit, 1893-94)	10	12	3
	472	8	–		472	8	–

Amongst the receipts, the only item requiring explanation is the item "*provisions.*" This appears to be a small sum, about ½ per cent., paid by members on receiving a loan. It will be seen from the balance sheet that the banks may deposit any surplus in the Post Office Savings Bank. With reference to the sum of 40*l.* borrowed from the *Caisse générale d'épargne et de retraite*, it should be stated that the Rillaer Bank is the only one up to the present which has not been able to defray its loans entirely out of the members' deposits.

As in Germany, there is in Belgium also a "Central Bank" to which the rural banks are affiliated, andwhich acts as an intermediary in obtaining loans for the latter, besides exercising a general supervision.

III.—*The International Statistical Institute.*

The fifth biennial meeting of this representative body of statisticians was held at Berne, from the 26th to the 31st August last, Sir Rawson W. Rawson, K.C.M.G., who has held the presidency since the foundation of the Institute, being in the chair. On this occasion the number of members present reached a maximum, amounting to forty-one. There were two delegates from the British Government Mr. A. E. Bateman, C.M.G., and Major P. G. Craigie, the only other Englishman being Mr. F.

Hendriks. Amongst Honorary Fellows of this Society were Dr. J. Bertillon, Signor L. Bodio, M. A. de Foville, Dr. L. Guillaume, Dr. K. T. von Inama Sternegg, Dr. C. Juglar, M. A. N. Kiaer, M. E. Levasseur, Dr. G. von Mayr, M. N. Troïnitsky, and Dr. W. Verkerk Pistorius. Another Fellow, M. Yves Guyot, was also present, and was elected a member of the Institute.

The chair was taken by the President, Sir Rawson W. Rawson, the other officers present being M. E. Levasseur and Dr. W. Lexis, Vice-Presidents, and Signor L. Bodio, General Secretary.

After an address of welcome by M. Ruffy, Chief of the Swiss Department of Justice and Police, had been acknowledged by the chairman, the Institute proceeded to the discussion of papers and reports. The meeting was divided into the following four sections: I. Population, &c.; II. Commerce and Finance; III. Property and Agriculture; IV. Social and other questions; and in these most of the reports were approved before being submitted to the general body of members.

The report on an International Census in 1900, by Dr. Guillaume, will be found on p. 635. This provoked considerable discussion, and was finally referred to a committee of experts to consider its practicability. Meanwhile, M. Troïnitsky made the important announcement that the Russian Government was making all the arrangements necessary for taking, in 1897, the "First Census of the Russian Empire." Dr. J. Bertillon stated that international statistics of population based on the returns of the last census, furnished by the various Governments, were in course of preparation.

M. Kiaer submitted a proposal which he termed "Representative Enumerations," and which he suggested should be referred to a committee. He proposed that censuses should be taken on certain difficult points in small selected districts which should serve as types; and that by generalising from the facts thus ascertained over a small area, a knowledge of the position of the whole country on these points might be acquired. This system, thus proposed for population, is, it will be seen, not unlike that afterwards adopted for the collection of agricultural returns in cases when it should prove impossible to utilise a more accurate method. In the discussion on this proposal much stress was laid upon the necessity of distinguishing between subjects concerning which accurate data could be obtained, and questions which should more properly form the object of a monograph, or of a "statistical exploration," as M. Levasseur termed it. Finally, it was held that the investigation did not belong to this latter category, and should accordingly not form the object of a special inquiry.

M. Nicolai's proposal to establish "registers of population" was referred to a committee. It involved the keeping of volumes in which various data concerning each family should be entered after a census. By keeping international registers and entering in them any change of residence affecting the family or its members, he claimed that the exact number of the population would always be known, and that complete information as to the migration between different countries would be secured.

A report, by Dr. Guillaume, was adopted, inviting each country to prepare tables of the mortality-index of the country for five groups of ages (0—1, 1—20, 20—40, 40—60, 60—), the standard population being that of Sweden.[4] According to this system, the mortality per cent. in each country at these groups of ages is multiplied by the percentage of the population at that age in the standard country (Sweden), the product being the mortality-index at these ages. The sum of these products is the mortality-index for all ages. In the case of Switzerland, for example, the mortality-index for 1893 works out as follows :—

Ages.	Number of Persons Living in the Middle of the Year.	Number of Deaths.	Mortality.	Proportion of the Population of Sweden (Standard) Living at Each Age.	Index for Switzerland.
			Per cnt.	Per cnt.	Per cnt.
0— 1	65,959	12,874	19·52	2·55	4·98
1—20	1,163,884	8,364	0·72	39·80	2·87
20—40	840,202	6,894	0·82	26·96	2·21
40—60	600,980	10,704	1·78	19·23	3·42
60—	287,777	22,223	7·72	11·46	8·85
Total	2,958,802	61,059	2·06	100·00	22·33

Under the head of movement of population may also be classed the report of Dr. von Mayr, in accordance with which a resolution was adopted in favour of the publication of international statistics of births generally, births in each month, deaths in each month and according to age, causes of death, marriages, and emigration and immigration by land and by sea; the sex in all cases being distinguished.

M. Bodio presented a report on the International Statistics of deaths which he had prepared. Dr. Bertillon presented two reports on nomenclature, the first of diseases, and the second of accidents.

M. de Foville undertook to carry out a proposition of M. Ferraris, namely, to collect and publish periodically statistics showing the production of the precious metals, their international movement, and the consumption of gold and silver in different countries, whether for industrial purposes, for coinage, or the amount of wear and tear and other losses.

Three papers were read on the fall in revenue from "movable property," by M. Cheysson, Herr Schmoller, and M. Neymarck. On the proposition of the latter, a committee was appointed to study the best methods to be utilised in the valuation of capital, and national and international statistics of income from personal property.

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[4] See *Mortalitäts-Coëfficient und Mortalitäts-Index*, by J. Körösi, in the *Bulletin de l'Institut International de Statistique*, vol. vi, p. 305.

The Russian delegates exhibited maps representing the tonnage along the chief trade routes of Russia, based on the model of the returns annually made in France by M. Cheysson (which the latter also submitted); and also showing the growth along the various routes of the traffic in wheat and rye from the interior of the country where it was grown to its various outlets at the ports or on the borders of the empire.

Mr. Bateman brought up the report from the Second Section on International Commercial Statistics, which was, after considerable discussion, adopted. The resolution invites the different Governments to prepare—either separately or as supplementing their ordinary trade returns—a special table comprising, as far as possible, the most important articles of general commerce, according to a list to be drawn up. In this table not only are the quantities (gross weight) of imports and exports to be given, but also their value calculated for each country according to the method in force in that country.

Under the head of Agriculture, Dr. Pilat brought up the report of the committee on agricultural statistics, confining himself to the collection of data as to the area under crops. The system adopted in the collection of such returns in Great Britain was considered as the ideal to be followed wherever practicable; but owing to the varying degrees of enlightenment of the rural population in many countries, it was resolved that, where this circumstance rendered it impossible to issue schedules to be filled in by individuals, recourse ought preferably to be had to the following method. The country should be divided up into districts, and "type farms" selected to represent the districts; on these an exact investigation should be made of the area under each crop, and the remainder of the district apportioned among the various crops according to the fractions occupied by these crops on the typical farms. Care should be taken to make the districts as small as possible; and small, medium, and large sized farms should be dealt with separately and classified according to type farms of their own size.

Dr. von Inama Sternegg gave an account, under the title of Agricultural Morphology, of an inquiry into agricultural wages in Austria (see p. 650).

Major Craigie had proposed an international return dealing only with certain characteristic agricultural statistics of each country, but he was prevented from accomplishing this object by the absence of data in some States, notably Belgium. It is accordingly the more satisfactory to find, from information received since the meeting, that Belgium has now provided for a detailed agricultural census, to be taken in the second half of December of this year.

Amongst other papers and reports on miscellaneous subjects may be mentioned the following: The organization of international statistics of labour, by M. Denis; The English Labour Department, by Mr. Bateman; International Statistics on the Unemployed, by M. Moron; International Statistics of Savings Banks according to Occupation, by Herr Rasp; Primary Instruction in France, by

M. Levasseur; Foundlings and Children Physically or Morally abandoned, by M. Raseri; International Statistics of the Consumption of Alcohol, by M. Milliet; and Causes of Regularity in Statistical Phenomena, by Dr. Lexis.

Two public lectures were given: by Dr. Von Mayr, who chose for his subject, "Laws in Statistics," and by M. Levasseur, on the "History of Demography."

The session concluded with the re-election of the former officers; the veteran President, who had expressed his intention of retiring, consenting, on the strong and unanimous desire expressed by the members, to be nominated again. The Bureau was strengthened by the addition of a third Vice-President, Gen. F. A. Walker (United States). The invitation of the Russian Government, conveyed by M. Troïnitsky, to hold the sixth meeting, in 1897, at St. Petersburg, was gratefully accepted.

IV.—*A General Census in* 1900. *Inquiry as to the Possibility of making it Synchronous, and as to the Extent to which it can be made Uniform.*

At the recent biennial meeting of the International Statistical Institute held at Berne in August last, a committee was appointed at the instance of Dr. Guillaume, Director of the Statistical Office of the Federal Government of Switzerland, to collect information as to the possibility of effecting a synchronous census of each (civilised) country in the year 1900, and as to the extent to which uniformity might be introduced into the collection and tabulation of the principal data, so as to promote the facility and credibility of international comparisons.

The committee agreed to the following report, which was adopted by the General Assembly. It will be seen that the object is to obtain the opinion of experts and statisticians in different countries upon the above points, for consideration by the committee at the next meeting of the International Statistical Institute in 1897, when the committee will determine whether it shall recommend to the Institute to take any or what action in the matter.

The report presented by Dr. Guillaume is as follows:—

The First Section, to whose examination this motion was referred, considered that, as the end of the century was approaching, it might be a suitable opportunity for the different Governments to come to some understanding with the object of proceeding simultaneously in the year 1900 to a universal census of the population. At a meeting of statisticians there is no need to demonstrate the utility of such an undertaking, which ought, if possible, to take place on the same day in all countries. In any case this would associate an important work with the century which will shortly commence, and an international enumeration of the population, taken in an identical form so far as all the important points are concerned, would prove interesting alike to all Governments and men of science. The difficulties which such an undertaking must encounter are great, but not insuperable. It will be sufficient with regard to them to consider that the following countries, having fixed the intervals of time at which their censuses recur, will proceed in 1900 or 1901 to an enumeration of their population:—

Austria.	Presumable date of the next census........	31st December,	1900
Belgium.	„	31st „	1900
Denmark.	„	1st February,	1900
France.	„	12th April........	1901
Germany.	„	1st December,	1900
Great Britain and Ireland.	„	5th April........	1901
Hungary.	„	31st December,	1900
Italy.	„	31st „	1901
Netherlands.	„	31st „	1899
Norway.	„	1st January....	1901
Portugal.	„	1st „	1900
Sweden.	„	31st December,	1900
Switzerland.	„	1st „	1900
United States.	„	June................	1900

Thus of the fourteen States which appear in the above table, ten (including Norway) will in any case take a census of their population in 1900; seven of these fix the date in December, five having chosen the 31st and two the 1st. The census of Denmark will be taken in February, and that of the United States in June; while Norway has fixed the 1st January, 1901, as her date. If the point was insisted on that the general enumeration should be taken all over the world on the same day of the same month, some arrangement would necessarily have to be made by the various Governments at a conference, to which the different States would be invited to send representatives. If, for example, the 1st or the 31st December, 1900, was chosen as the date, Denmark and the United States would have to put off taking their census—the first for ten months, the latter for six. The Netherlands would have to put off theirs for a year, while Great Britain and France would have to advance the operation by five months, and Italy by a year. States which are not mentioned in the above list, because they have no regular periods for census-taking, should also be invited to send delegates to the proposed conference, in order that, should they think of organising a census of their population, they too might adopt the year and the day fixed by the conference for that purpose.

Once agreed on this point, an arrangement would have to be made to include in the scheme of the census a certain number of leading questions, equally interesting to all the countries concerned. These questions, which would be selected from those which, on the proposal of our colleague, M. Körösi, were accepted by the Institute, would have to be formulated everywhere in identically the same manner and expressed in terms having precisely the same signification, so as to obtain results which would be strictly comparable.

It is most important that the question of occupations should be settled by international agreement. This matter has already been raised and discussed in the International Institute, notably at Vienna in 1891, when M. Bertillon, in his own name and in that of M. Vannacque, presented a carefully elaborated report to support a suggested grouping of the occupations. This proposed classification of the various occupations intended for taking the censuses of the civilised States has not yet been adopted, and a further complication lies in the fact that it is very difficult to compare, with any degree of accuracy, statistics of the occupations in the various countries, in view of the differences which exist in the nomenclature of these States. However, the Institute declared in its session at Vienna that "it attached great importance to the census of the professions being made in accordance with some comparable nomenclature." The general principles of the nomenclature proposed by MM. Bertillon and Vannacque were recommended for adoption to the different statistical bureaux, but unanimity on this point is still far from being realised.

On the proposal of M. Körösi, the Institute decided that each individual ought to be classified in the census according to his own trade and not according to that of his employer. MM. Bertillon and Vannacque wished that those engaged in every occupation should be distinguished as follows:—

1. Employers, employés, labourers.
2. Members of the family without any particular occupation, who live at the expense of each of the three above mentioned categories of persons engaged in some employment.

Dr. Rauchberg proposed the following distinctions:—

1. Employers of labour.
2. Foremen.
3. Skilled workmen.
4. Ordinary labourers.
5. Women and children supported by the labour of their husbands or relations.
6. Servants.

This question, which is very important, not only from the point of view of social economics, but also on account of the mortality in different occupations, ought to be definitely solved at the conference, which would have to decide the date of the international census. Other points, such, for example, as the nationality of the persons enumerated, would also have to be considered, but only the most important have been mentioned here. The committee of the Institute, to which all proposals would be referred, would have further to define the exact meaning of certain terms used in censuses, in order to render the comparison of results as easy as possible. And, with regard to this matter, Dr. W. Ogle, at the session of Vienna, quoted as an example the word "house," which, in taking a census, would not everywhere bear the same signification; the words "household" or "family" are also capable of various interpretations. All these terms, according to the language in different countries, would in fact require exact definition, in order that, for the purposes of comparative study, one might feel certain, as Dr. Ogle remarked, that one was dealing with identical facts and not merely with identical terms.

The committee (to which this matter would be referred) would also have to formulate a recommendation on the question of householders' schedules.

For all these reasons the section has unanimously proposed the following resolution :—

The International Statistical Institute, in view of the utility which a census of the population of all countries, taken in the year 1900, and, if possible, on the same day, would have, appoint a special committee to study the question and to present a report at the next session.

The functions of this committee are—

1. To advise as to the most convenient date for taking this census.

2. To determine and formulate such important questions as are of general interest, and which should thenceforward appear on the schedules or census papers of all countries, leaving the responsibility of completing or supplementing such questions to each of the countries.

3. To define precisely the terms employed in the census papers, in order to avoid all ambiguity, and to obtain, not identical terms, but identical results.

4. The committee will also offer suggestions as to the best means of obtaining, in the year 1898, united action on the part of the various States interested in order to attain the desired object.

The committee shall be composed of such members of the Institute as are in their respective countries at the head of the statistical bureaux charged with presiding over the censuses of the population. It shall have power to add other members of the Institute to its number.

The resolution proposed was carried unanimously.

V.—*Agricultural Returns of Great Britain*, 1895.

The preliminary estimate of the harvest returns of Great Britain for 1895 show, as was expected, a marked decrease in the produce of wheat, barley, and oats, the only crops for which figures are as yet available. This decrease from the yield of the previous year, amounting to nearly 4½ bushels per acre in the case of wheat and oats, and nearly 3 bushels in the case of barley, is to be attributed to the drought in the early summer. The produce in 1894 was, it will be noticed, above the average. In the case of wheat, the falling off in the total produce is further accentuated by the very large decline of no less than 26·5 per cent. in the acreage since 1894. The total produce of this cereal in Great Britain was thus estimated at 35,120,459 bushels against 56,087,603 last year, a decline of over 37 per cent.

Produce of Wheat, Barley, and Oats. Preliminary Statement showing the Estimated Total Produce and Yield per Acre of Wheat, Barley, and Oats in Great Britain in the Year 1895, *with Comparative Statements for the Year* 1894, *and for the Average of the Ten Years* 1885-94.

WHEAT.

	Estimated Total Produce.		Acreage.		Estimated Yield per Acre.		Average of the Ten Years 1885-94.
	1895.	1894.	1895.	1894.	1895.	1894.	
	Bshls.	Bshls.	Acres.	Acres.	Bshls.	Bshls.	Bshls.
England	35,120,459	56,087,603	1,339,806	1,826,626	26·21	30·71	29·35
Wales	951,505	1,420,082	44,036	56,470	21·61	25·15	23·34
Scotland	1,104,293	1,665,116	33,641	44,866	32·83	37·11	35·32
Great Britain.	37,176,257	59,172,801	1,417,483	1,927,962	26·23	30·69	29·32
			BARLEY.				
England	58,092,197	61,194,078	1,837,850	1,766,142	31·61	34·65	33·07
Wales	2,996,676	3,347,992	111,886	111,572	26·78	30·01	28·03
Scotland	7,562,072	7,753,001	216,543	218,057	34·92	35·55	35·26
Great Britain.	68,650,945	72,295,066	2,166,279	2,095,771	31·69	34·50	33·02
			OATS.				
England	78,645,010	88,289,392	2,045,477	1,978,312	38·45	44·63	40·58
Wales	7,654,066	9,012,652	242,198	250,866	31·60	35·93	32·58
Scotland	35,849,552	38,160,887	1,008,388	1,024,223	35·55	37·26	35·60
Great Britain.	122,148,628	135,462,931	3,296,063	3,253,401	37·06	41·64	38·21

In the table of acreage (representing the area under different crops on 4th June), the figures for Ireland have been added, and consequently those for the United Kingdom as a whole, including the returns for the Channel Islands. The number of live stock in the different parts of the United Kingdom on the same date is also given.

TABLE I.—*Acreage under each kind of Crop, Bare Fallow, and Grass; and Number*
1894, in each Division of Great Britain; with simi

	England.		Wales.		Scotland.	
	1895.	1894.	1895.	1894.	1895.	189
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres
Total area of land and water[a]	32,543,890	32,543,890	4,773,995	4,773,995	19,453,843	19,453,8
Total acreage under all kinds of crops, bare fallow, and grass[b]	24,844,688	24,880,717	2,838,359	2,856,955	4,894,466	4,892,1
Corn Crops—						
Wheat	1,339,806	1,826,626	44,036	56,470	33,799	44,8
Barley or bere	1,837,850	1,766,142	111,886	111,572	216,543	218,0
Oats	2,045,477	1,978,312	242,198	250,866	1,008,230	1,024,2
Rye	60,011	81,239	1,288	1,785	7,414	7,5
Beans	229,223	228,894	1,433	1,529	12,009	13,7
Peas	206,630	240,653	1,399	1,266	995	1,1
Total	5,718,997	6,121,866	402,240	423,488	1,278,990	1,309,6
Green Crops—						
Potatoes	373,231	340,557	33,654	34,038	134,332	129,8
Turnips and swedes	1,361,841	1,400,484	72,010	72,836	482,051	483,2
Mangold	324,742	344,413	7,786	8,135	1,144	1,0
Cabbage, kohl-rabi, and rape	141,764	165,407	2,133	2,306	9,156	9,6
Vetches or tares	152,792	173,558	1,680	2,100	11,332	11,4
Other green crops	112,623	118,019	1,306	1,253	2,185	2,3
Total	2,466,993	2,542,438	118,569	120,668	640,200	637,6
Clover, sainfoin, and grasses under rotation—						
For hay	1,741,712	1,558,799	175,742	170,135	385,977	392,9
Not for hay	1,084,424	1,046,116	153,305	150,913	1,188,641	1,184,6
Total	2,826,136	2,604,915	329,047	321,048	1,574,618	1,577,6
Permanent pasture or grass not broken up in rotation—[c]						
For hay	4,079,803	4,178,720	505,818	510,649	175,268	163,0
Not for hay	9,165,044	8,949,068	1,472,639	1,472,155	1,211,991	1,191,4
Total	13,244,847	13,127,788	1,978,457	1,982,804	1,387,259	1,354,4
Flax	1,995	1,750	7	1	21	
Hops	58,940	59,535	—	—	—	—
Small fruit	68,122	62,457	1,175	1,076	5,250	4,8
Bare fallow or uncropped arable land	458,658	359,968	8,884	7,870	8,128	7,8
	No.	No.	No.	No.	No.	No.
Horses used solely for agriculture	783,547	780,516	77,243	76,485	149,544	147,2
Unbroken horses—						
1 year and above	250,964	344,878	41,483	57,477	37,906	51,7
Under 1 year	97,004		20,173		13,160	
Mares kept solely for breeding	53,232	50,854	14,260	13,544	6,713	6,6
Total of horses	1,184,747	1,176,248	163,158	147,506	207,323	205,7
Cows and heifers in milk or in calf	1,786,370	1,759,083	275,483	272,401	423,967	428,6
Other cattle—						
2 years and above	1,063,817	1,113,556	103,915	119,572	264,298	283,5
1 year and under 2	776,833	802,892	151,129	148,137	262,406	266,1
Under 1 year	846,045	775,076	173,297	154,890	227,281	223,2
Total of cattle	4,472,565	4,450,607	703,824	695,000	1,177,947	1,201,5
Ewes kept for breeding	5,698,412	5,727,634	1,138,104	1,129,394	2,832,613	2,810,9
Other sheep—						
1 year and above	3,667,502	3,609,186	891,388	911,419	1,775,496	1,822,
Under 1 year	6,197,657	6,173,175	971,349	1,037,828	2,625,674	2,639,7
Total of sheep	15,557,571	15,509,995	3,000,841	3,078,641	7,233,783	7,272,
Sows kept for breeding	355,061	295,300	40,955	37,128	16,194	18,
Other pigs	2,115,959	1,718,523	219,136	190,540	134,126	129,8
Total of pigs	2,471,020	2,013,823	260,091	227,668	153,320	148,

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[a] Not including tidal water.

[b] Not including nursery grounds, woods and plantations, or mountain and heath land.

orses, Cattle, Sheep, and Pigs; as returned upon the 4th June, in the Years 1895 *and*
articulars for Ireland, and with Total for the United Kingdom.

Great Britain.		Ireland.		United Kingdom, including Isle of Man and Channel Islands.		
1895.	1894.	1895.	1894.	1895.	1894.	
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
56,771,728	56,771,728	20,706,258	20,706,258	77,671,319	77,671,319	Total area of land and water[a]
32,577,513	32,629,855	[d] 15,178,718	[d] 15,161,925	47,883,133	47,919,830	Total acreage under all kinds of crops, bare fallow, and grass[b]
						Corn Crops—
1,417,641	1,927,962	36,529	49,342	1,456,200	1,980,228	Wheat
2,166,279	2,095,771	171,785	164,780	2,346,367	2,268,193	Barley or bere
3,295,905	3,253,401	1,216,870	1,254,813	4,527,741	4,524,167	Oats
68,713	90,617	11,517	11,921	80,293	102,676	Rye
242,665	244,180	2,354	2,784	245,128	247,062	Beans
209,024	243,043	498	401	209,609	243,551	Peas
7,400,227	7,854,974	1,439,553	1,484,041	8,865,338	9,365,877	Total
						Green Crops—
541,217	504,454	710,389	717,120	1,262,766	1,232,055	Potatoes
1,915,902	1,956,573	313,248	311,294	2,237,653	2,276,284	Turnips and swedes
333,672	353,598	[e] 53,026	[e] 52,023	387,252	406,164	Mangold
153,058	177,394	[f] 45,263	[f] 50,673	198,465	228,230	Cabbage, kohl-rabi, and rape
165,804	187,117	4,247	4,657	170,368	192,113	Vetches or tares
116,114	121,633	25,409	27,510	143,423	151,246	Other green crops
3,225,762	3,300,769	1,151,582	1,163,277	4,399,927	4,486,092	Total
						Clover, sainfoin, and grasses under rotation—
2,303,431	2,121,904	635,603	641,043	2,952,636	2,776,226	For hay
2,426,370	2,381,728	649,754	671,155	3,108,503	3,086,528	Not for hay
4,729,801	4,503,632	1,285,357	1,312,198	6,061,139	5,862,754	Total
						Permanent pasture or grass not broken up in rotation—[c]
4,760,889	4,852,442	1,558,066	1,547,967	6,327,228	6,408,260	For hay
11,849,674	11,612,627	9,630,952	9,533,952	21,503,889	21,170,140	Not for hay
16,610,563	16,465,069	11,189,018	11,081,919	27,831,117	27,578,400	Total
2,023	1,760	95,202	100,851	97,247	102,622	Flax
58,940	59,535	—	—	58,940	59,535	Hops
74,547	68,415	—[g]	—[g]	[g] 74,920	[g] 68,868	Small fruit
475,650	375,701	18,506	19,639	494,505	395,682	Bare fallow or uncropped arable land
No.	No.	No.	No.	No.	No.	
1,010,333	1,004,291	—[g]	—[g]	—[g]	—[g]	Horses used solely for agriculture
						Unbroken horses—
330,353	454,095	—[g]	—[g]	—[g]	—[g]	1 year and above
130,337		—[g]	—[g]	—[g]	—[g]	Under 1 year
74,205	71,075	—[g]	—[g]	—[g]	—[g]	Mares kept solely for breeding
1,545,228	1,529,461	557,139	553,091	2,112,207	2,092,290	Total of horses
2,485,820	2,460,086	1,433,960	1,447,402	3,937,590	3,925,486	Cows and heifers in milk or in calf
						Other cattle—
1,431,525	1,516,672	995,165	1,070,351	2,431,756	2,592,604	2 years and above
1,190,366	1,217,145	911,800	914,287	2,110,824	2,140,592	1 year and under 2
1,246,625	1,153,210	1,017,116	960,154	2,273,144	2,122,114	Under 1 year
6,354,336	6,347,113	4,358,041	4,392,194	10,753,314	10,780,796	Total of cattle
9,663,129	9,668,002	2,350,520	2,492,604	18,384,441	18,541,761	Ewes kept for breeding
						Other sheep—
6,834,386	6,342,730					1 year and above
9,794,680	9,850,768	1,564,335	1,612,646	11,390,412	11,496,057	Under 1 year
26,292,195	25,861,500	3,914,855	4,105,250	29,774,853	30,037,818	Total of sheep
416,210	351,119	—[g]	—[g]	—[g]	—[g]	Sows kept for breeding
2,469,221	2,038,907	—[g]	—[g]	—[g]	—[g]	Other pigs
2,885,431	2,390,026	1,338,454	1,389,310	4,238,870	3,794,043	Total of pigs

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[a] Exclusive of mountain and heath land.
[e] Including beetroot.
[f] Cabbage and rape only.
[d] Furnished by the Registrar-General for Ireland.
[g] Not separately returned in Ireland.

VI.—*Notes on Economical and Statistical Works.*

Principles of Economics. Vol. i, 3rd edition. By Alfred Marshall. xxxi + 823 pp., 8vo. London: Macmillan and Co., 1895.

It speaks well for the public interest in political economy that the massive masterpiece of Professor Marshall should have reached a third edition in five years. The new edition contains no great alterations of doctrine and not many re-statements. A few of the old footnotes have disappeared, but their place is more than filled by new footnotes and additions, the whole new matter bringing up the number of pages (apart from the index) to 811.

The important additions are two chapters at the beginning of the sixth book (corresponding to Book vii of the first edition). The first of these chapters discusses distribution from the side of demand, the second from the side of supply and from the two brought together. They are introduced to enable the reader more easily to take his bearings, and learn how the writer would have him apply the correlations of the first part of the volume to the correlations of the second.

There is a change which will startle old fashioned economists in the acceptation of the word capital (Book ii). The influence upon Professor Marshall of recent writings on this subject on the Continent and in America has been greater perhaps than he himself is fully aware.

Public Finance. By C. F. Bastable, M.A., LL.D. Second Edition. 716 pp., 8vo. London: Macmillan and Co, 1895. 12*s*. 6*d*.

The revised and enlarged edition of Professor Bastable's useful and valuable treatise is now before us. The changes are not extensive, but some of them are important. The author has utilised the suggestions made to him publicly and privately, and also included more recent facts and figures than were available for the first edition three years ago. Such important changes as those recently made in the Prussian taxes on property and the English death duties receive careful notice. In regard to the latter, the sections formerly treating of taxes on successions are now placed in a chapter by themselves—a chapter which is enriched by the new material referred to, and which has undergone considerable revision in the course of the re-arrangement. Professor Bastable brings forward the useful suggestion that death duties may be regarded as a capitalised income tax, and thus as tending to remedy the inequity of equal taxation of temporary and permanent incomes under the ordinary income tax.

The Appendix to Book III in the first edition, on *The Maxims of Taxation*, has been expanded into a chapter on *The Canons of Taxation*. This expansion is welcome, not because any considerable amount of new matter has been introduced, for such is not the case, but because the expanded form is more useful for students, for whose guidance and help the well balanced views of Professor Bastable are extremely useful.

The addition of a subject index will be of service to the increasing number of students of finance to whom this book serves as guide and instructor.

From the point of view of these students the omission of the list of works referred to, which was inserted in the former edition, is to be regretted. To many of them it was the handiest, if not the only, source of information as to which were the most important works of French and German writers, should their desire for a more intimate acquaintance with such writings be roused by a perusal of Professor Bastable's treatise.

Report on Gain-Sharing and certain other Systems of Bonus on Production. (Board of Trade, Labour Department.) 132 pp., 8vo. 1895. 6½*d.*

The useful report prepared by Mr. Schloss last year on profit-sharing is supplemented by the present account of certain methods of admitting workmen to a share of the gain which extra care and industry on their part may produce, which, while avoiding some of the disadvantages of profit-sharing schemes, lose also some of their advantages. In these cases the workman no longer shares in those risks of the business over which he cannot by any possibility exercise controlling power.

Six schemes are described, differing considerably in detail. The first two, the Yale and Towne "gain-sharing" system, and Halsey's "premium plan," are examples not drawn from purely English experience, but from American (United States and Canada) attempts to solve labour difficulties. Then follow two cases of firms whose names are not given, concerned with lead works and a skin-dressing factory respectively, then Willans and Robinson's, and the Thames Ironworks' schemes are explained.

As the assignment of profits depends on the determination of a standard cost, a proportion of the savings in reference to this standard being assigned to the workmen, it is clear that the system is not universally applicable.

In regard to the financial results of these systems, the report shows in great detail those of the Thames Ironworks' scheme. Here a bonus of 5·68 per cent. on time-wage earnings amounting in the four years 1891-94 to over 166,000*l.*, has been realised. At Willans and Robinson's, about 6 per cent. in the outside department and 15 per cent. in the works has been added as bonus to ordinary time-wages. Figures given show a variation from less than 3 to 82 per cent., so that the average rate, stated by itself, is not so instructive as it might be. A bonus of 5 to 10 per cent. is reported in the skin-dressing factory, while a rate of 10 per cent. in 1893 fell to 1·65 per cent. in 1894 in the lead works.

As is pointed out, the chief difficulties of these schemes arise in the determination of the standard rates and the proportion of the saving on them which goes to the men and masters respectively. This latter proportion may enable the masters to secure much cheaper work, even if that end were not attained in the fixing of the standard cost. The report itself contains a very fair discussion of the various aspects of this question.

Reports of this kind are of extreme interest and of such importance that it may be hoped their number and frequency will be increased.

Longmans' Gazetteer of the World. Edited by George G. Chisholm, M.A. xii + 1788 pp., la. 8vo. London: Longmans, 1895.

This large volume is an elaborate and useful book of reference, and the information it contains is given clearly and concisely. It has evidently been carefully compiled, and is based on the best available authorities. All facts, such as population of places, have been taken from official sources, censuses, &c.; the articles on countries and the larger divisions have been mostly written by specialists, and their accuracy tested by being submitted to local reviewers.

The Gazetteer includes (a) for the United Kingdom, the names of all parishes and places with railway stations or post offices; (b) for Europe, all towns or villages with over 2,000 inhabitants, besides many other places with a lesser population, which are included because of their historical interest, mineral resources, or other reasons; (c) for the English Colonies, all important villages and towns, and many smaller places, the latter mostly in newly settled districts; (d) for the United States, all places with a population over 500, and for the rest of the world, all places of any importance or interest.

Pains have been taken to make the statistical information which is given in an appendix at the end of the volume as far as possible suitable to a permanent work of reference. There are tables giving the area, population, and density of population of the principal countries, and their financial, commercial, agricultural, and industrial condition; also agricultural statistics of the United Kingdom for 1869 and 1893, which were the years in which the area under wheat was greatest and smallest respectively. A table is given showing the estimated population of various countries for each year from 1891 to 1901, on the assumption of the same rate of increase as obtained between the last two censuses, or the last two at a decennial interval, and is continued down to 1901. Among the remaining tables there is one giving the tonnage statistics of British ports for 1875-94, and another giving the coal production of the principal countries from 1860 to 1893.

Cours Élémentaire de Statistique. Par le Dr. Jacques Bertillon. 599 pp., 8vo. Paris: Société d'Éditions Scientifiques, 1895. 10 fcs.

Science of Statistics. Part I. *Statistics and Sociology.* By Richmond Mayo-Smith, Ph.D. xvi + 399 pp., 8vo. New York: Macmillan and Co., 1895.

Of these two hand-books of statistical science, we are bound to confess a preference for the work of the well known Parisian statistician. Comparison between works conceived on such widely different plans is not particularly useful, however, and a considerable amount of extremely useful, but very necessary advice to those who would avail themselves of statistical methods of study is common to the two works.

M. Bertillon has provided a text book for candidates who aspire to posts in certain public departments, but his work will, we need hardly say, have a much wider range of usefulness than this. Even the specialists who from time to time delight the monthly gatherings of our Society with studies which are masterpieces of ingenuity and thoroughness, will find here not merely a collection of wise precepts culled from the choicest sources to serve as guides to such as desire to thread the mazes of statistical arguments, but also suggestions which may assist them in their own work, or possibly new modes of presenting familiar material so as to make it more striking than before. It must not be thought that the wise precepts above referred to are presented as a series of rules to be followed. They are given in far more impressive form as occasion serves, by providing instances where neglect of such precautions totally misrepresents the real facts underlying tabulated records.

Such a systematic treatment of the subject as M. Bertillon has adopted is of inestimable value. Such must be the judgment of all who realise the extent to which statistics are constantly perverted, either ignorantly, or deliberately and trusting to general ignorance for immunity from discovery. The volume should render good service in connection with the new School of Economics and Political Science in London.

M. Bertillon, in the first part of his work, deals with the sources of the material for statistical arguments, and gives a sketch of the history of statistical departments and publications in different countries, taking occasion, naturally, to point out the great difficulty of comparing the material, nominally relating to the same facts, which is recorded by the different States. In the second part, the organisation of the collection, classification and reduction of statistical material is treated, as also the form in which it may be most conveniently published by Government departments. Part 3 deals with the utilization of statistical inquiries, and treats of the mode of presentation of results. There are some very pertinent remarks on the subject of averages, but the most interesting feature is the exposition of different methods of graphic delineation of results. One diagram shows both the total number of houses and the percentage of each height up to eight stories, in each district in Paris, and this without excessive complication, by an ingenious device of graphic representation. There are other examples equally interesting, ingenious and simple. Part 4 handles the details of census taking, giving examples of the forms of return used in France and Germany. The advantages of a continuous registration of the population are dwelt upon. Various other statistical returns, such as those relating to education, agriculture, and trade are also dealt with in detail. The fifth part of the book is called, "The Elements of Demography," and deals with population statistics, marriage-, birth-, and death-rates (emphasising the necessity of considering the proportion, not to the whole population, but only to the part affected by the two former, and to age-groups in the latter), and criminal statistics.

Appendices contain the chief statistical facts for France, and a note on apparatus for use in dealing with statistics, including the Hollerith machine.

Dr. Mayo-Smith's work is to be compared most strictly to the fifth part of M. Bertillon's treatise. It is the first of two volumes, of which the second is to be on *Statistics and Economics*. Considerable stress appears to be laid on the method of treatment, which briefly is as follows: each subject is first considered from the point of view of the *sociological purpose* of the investigation, and the best form in which to present the facts for this purpose is determined. The *statistical data* available are next passed under review; then *scientific tests* of the accuracy and adequacy of the proofs afforded are applied; and in conclusion a *reflective analysis* of the results, tending to the establishment of sociological laws and the consideration of questions of practical importance, is added.

Though the volume is of considerable size, the data offered are much less copious in most directions than those of the French treatise, and in particular the absence of all graphic presentation of the figures seems regrettable. Had M. Bertillon's work not been before us just now, we should probably have appraised more highly this volume from the Columbia University Press.

Les Derniers Renseignements Officiels sur les Mouvements de la Population en France. (Par l'abbé P. Fortin, in the "Etudes Religieuses, Philosophiques, Historiques, et Littéraires, Revue Mensuelle publiée par des Pères de la Compagnie de Jésus," for March, April, June, August, October, 1895). 8vo. Paris, 1895.

Father Fortin is no doubt a special pleader; but his inquiries are conducted with much skill, and he uses figures that are accessible to all, though seldom so patiently brought together and digested.

In the March article his subject is the threatened decrease of the French population in some of its general aspects. According to the quinquennial census the numbers had grown between April, 1886, and April, 1891, by only 124,000. He places alongside of this result what would in England be the returns of the Registrar-General, the annual returns of births, marriages, and deaths. These show that from 1883 to 1889 the births exceeded the deaths in each of the seven years. In the three years from 1890 to 1892 they fell short of the deaths, being as few as in the exceptional year 1871. The last report (viz., for 1893) shows an excess of births beyond deaths of about 7,000, and a birth-rate of 22·9 per thousand.

Whereas in 1816 France had 9 millions fewer people than in 1889, she had actually 88,000 more births in the earlier year. If we look at the country as it was after the effects of the German annexations were wiped out, we find that in 1893, with a larger population (38¼ millions) than in the sixties, she had 122,000 fewer births. The void had been filled by immigration. There are at present more than 1,100,000 foreigners settled in France, and half the number have come since the war. Father Fortin points out that the birth-rate (simply taken as in the ordinary

French average) would be, for that half, about 12,000 per annum, enough to turn the apparently favourable balance of 1893 into a real deficit; but, either by accident or by design, the Government, who had distinguished the foreign *quota* from the native French up to 1892, dropped the distinction in their report for 1893. (Études, March, p. 435.)

Again, drawing on the labours of Bertillon and Levasseur, Father Fortin contends that it is only in the illegitimate births that there is any steady increase at all. In 1893 these were 8·8 per cent. of the whole, as against 8·0 in 1885; infant mortality is greater among the illegitimate than among the legitimate, and hence this seeming mainstay is a broken reed. It should be noted, however, that in his third article (June, 1895) the writer allows that in Paris at least the mortality of illegitimate children is surprisingly low, after every allowance for out-nursing. It is a pity that the facts and figures given on this head could not have been brought up to date. Those quoted are Dr. Lafabrègue's for the early seventies. (Études, June, pp. 305—13). Father Fortin allows that Paris itself is not so destructive to life as is sometimes alleged, but calculates that the whole department of the Seine costs the country 30,000 extra lives a year. (ibid., 313).

The second article (April) dwells most upon the diminishing size of the French family. It has come down from 3·1 children in 1876-80 to 3·0 in 1881-85, and then to 2·9 in 1886-90, 2·78 in 1891-93 (p. 635). Father Fortin traces the effects of this change on the distribution of ages in the tables. He allows that the mean length of life has been prolonged; but thinks the gain too dearly purchased. He presents (from Bertillon and Levasseur) the figures on this head for the several provinces in detail (pp. 646—47) summing up the results thus (p. 648):—

Years.	Birth-Rate of 40—35 per 1,000.	Birth-Rate of 34—30.	Birth-Rate of 29 & 28.	Birth-Rate of 27 & 26.	Birth-Rate of 25 & 24.	Birth-Rate of 23 & 22.	Birth-Rate of 21 & 20.	Birth-Rate of 19 & 18.	Birth-Rate of 17 & 16.	Birth-Rate of 15 & 14.	Total Number of Departments.
	Depts.	Depts.	Depts.	Depts.	Depts.	Depts.	Depts.	Depts.	Depts.	Depts.	
1801-10	24	36	13	8	2	—	—	—	—	—	83
'11-20	16	41	13	9	3	1	—	—	—	—	83
'21-30	11	37	19	9	4	3	—	—	—	—	83
'31-40	6	31	13	17	10	2	4	—	—	—	83
'41-50	2	17	15	14	19	11	1	4	—	—	83
'51-60	—	12	14	18	14	21	4	5	—	—	83
'60-69	—	11	10	16	12	18	11	5	—	—	83
'77-86	—	8	9	7	14	22	18	6	2	—	86
'89........	—	3	5	8	6	20	23	17	2	2	86
'92........	—	2	3	5	9	16	25	17	8	1	86

The third article (June) discusses the relation of town and country. Evidence is given that the migration from county to town is much greater now than it was earlier in the century. In 1846, 24·4 per cent. of the population were in the towns, 75·6 in the country. With some fluctuations the share of the towns went up, till it reached 37·4 in 1891. "Towns," however, in the government reports includes too much. It includes villages of 2,000 people, who are really country folk. Excluding these and taking only the towns of 30,000 and over, we have a growth of town population from nearly 5,000,000 in 1872 to 6,800,000 in 1891. To an Englishman the phenomenon is not very startling, till Father Fortin has turned the figures round and put them in this way:—that, while from 1872 to 1891 France increased her whole numbers by 2 millions and a quarter, she increased the numbers in her towns (strictly so-called) by 1,900,000 (page 298). It would not surprise us, so much as it surprises him, to discover besides that 36,000 people seem to have left the country without going to the towns. As a Frenchman, he thinks it more likely that a mistake has been made in the returns, than that the missing thousands have left the soil of France altogether.

The same topic is further considered in the August article; and then the writer passes to the subject of marriages, made especially interesting at present by the new feature (of divorces) presented by the returns since 1884. He alleges that the permission of divorce has facilitated the breaking up of households precisely at the time when there was most need for their conservation. He pleads calmly and reasonably, and his case deserves an answer from those who question his conclusions.

Finally, in the last article (October), there is the inevitable comparison of France with foreign nations; we hear of the growth of Germany, Britain, Austria, and Italy, and the relapse of France. It is pointed out that a comparatively sparse population, surrounded by comparatively dense populations, offers a standing invitation to immigrants (p. 261).

La Question Monétaire. Mémoire par G. M. Boissevain. 100 pp., 8vo. Paris: Guillaumin et Cie., 1895.

The author of the Essay "La Problème Monétaire et sa Solution," which was awarded the prize offered by Sir H. Meysey-Thompson some five years ago, has issued a further essay, the French translation of which bears the above title, and which deals both with the general question of Bimetallism, and with the more recent developments of the currency controversy.

The number and variety of publications on this subject in recent years has been so great, that it is difficult for any author to present much that is strikingly original, either in matter or manner.

The treatment of the subject is clear and careful. The essay begins with a chapter on the theory of an international double standard; then follows a consideration of the present monetary situation, the next section treats of the solution of the question, and the final thirty pages treat of some objections which have been raised.

The author quotes freely from writers of authority, including well known English economists.

A series of appendices give tables similar in many respects to those contained in the paper which was read recently before our Society by Mr. W. Barr-Robertson.

Socialism: its Nature, Strength, and Weakness. By Professor R. T. Ely. xii + 449 pp., 8vo. London: Swan, Sonnenschein and Co., 1895.

Professor Ely has gained for himself a right to a hearing on the subject of socialism. In this book he examines the claims of socialism, not in the vague and almost unmeaning sense of the term which has led some to class themselves as socialists without much reason for doing so, but in the narrow sense in which it implies "radical social reconstruction." It is interesting to note the four elements which socialism embraces, in the author's view. They are: common ownership of the material instruments of production, the common management of production, the distribution of income by the common authority, and private property in the larger proportion of income.

From this enumeration it will not be difficult to see that Professor Ely represents here, not one special school of socialist advocates, but a socialism from which he has stripped much which he considers to conduce rather to weakness than strength, and in which he has included what he considers to be the strongest features of different schools. He divides the book into four parts: in the first the nature of socialism is expounded; in the second the strength of socialism is represented on the side of production as well as of distribution, and also in other directions; the third part deals with the weakness of socialism, considering and setting aside certain alleged objections which the author does not regard as valid, and dwelling on real dangers, of which most are tolerably familiar to students of the subject. The last part is entitled "The Golden Mean, or practicable Social Reform." In this part is advocated a series of reforms, of which the chief are the socialisation of monopolies and State ownership of land. Other of the measures urged as necessary will arouse far less opposition than these two are likely to encounter. Professor Ely insists on the desirability of a field for private enterprise, and on the need for a large number of comparatively small reforms rather than one overwhelming social change.

Appendices give the declarations of principle of eight prominent socialist bodies, some facts relating to socialism in Germany and France, and a bibliography extending in double columns over forty-four pages.

Hull-House Maps and Papers. By Residents of Hull-House. viii + 230 pp., 8vo. New York: Thomas Y. Crowell and Co., 1895. $2·50.

This book contains a description of the condition of the inhabitants of a congested district in Chicago, which resembles in many important respects the well known work of Mr. Charles Booth on East London. The ten writers who have co-operated to produce this account are residents in a Chicago "Toynbee Hall," the name of which gives the title to the book. The chapters on *The Sweating System*, *Wage-Earning Children* and the *Cloakmakers*, recall the revelations which have startled Londoners as to the conditions under which some of the labour of the metropolis is carried on.

The evils of the domestic workshop are painted in strikingly vivid colours, and the hard lives of children in stores and factories are illustrated in an effective, if somewhat gruesome, fashion. The difficulties which present themselves to the effective restriction of child labour and the attainment of healthy conditions of employment are described in telling language. It is as well to remember, however, that the name "child" is applied to all under sixteen years of age, if we would institute comparisons with things nearer home.

The physical defects caused by the conditions of work of the factory children are illustrated, not only by the text, but by a diagram on which measurements of 154 of these children between 14 and 16 years of age are recorded. A comparison with average measurements of 30,000 school children shows that most of these were strikingly defective in height, weight, and chest measurement, particularly in regard to weight.

The Jewish, Bohemian, and Italian colonies receive special treatment, as also do the Cook-county charities, on which the inhabitants of this district who sink into want from which private charity fails to rescue them have to rely.

Of the other chapters, that on the settlement itself, which is illustrated by six photogravures, will possess the greatest interest to most of those who have had any association with similar work in England.

Two large sheets of coloured maps show respectively the nationality and earnings of the inhabitants of the district. The information on which these are based was gathered in 1893 by the United States Department of Labor Investigations.

From the point of view of social and industrial classification this work cannot claim such completeness as its prototype. The special chapters to which we have referred above, however, are very instructive on certain aspects of industrial questions.

The chapters on the sweating system and child labour are followed by short bibliographies of official and other publications on these subjects. The former chapter is entirely, the latter partly, from the pen of Mrs. Kelley, an inspector of factories and workshops for the State of Illinois.

Die Landwirthschaftlichen Löhne in den im Reichsrathe vertretenen Königreichen und Ländern nach dem Stande des Jahres 1893. xxxv + 70 pp., fol. Vienna, 1895.

This is a report of a special inquiry instituted by the Imperial Ministry of Agriculture for Austria. It has been edited by Dr. Inama Sternegg for the Central Statistical Commission, and published as a large 4to. buff book of about 100 pages of painfully small type.

The inquiry was conducted in the manner of the old English Board of Agriculture. Written questions were sent round to the various districts, and the answers were collected and digested. Information was got in this way from all parts of the Austrian dominions except Dalmatia, Hungary, Bosnia, and Herzegovina. In a dominion like the Austrian, of which four-fifths are hills, but nine-tenths are productive for pasture if not agriculture, such an inquiry embraces the majority of the population. Next to those of Hungary (unfortunately not included in this inquiry) the most fertile corn lands are in Croatia, Slavonia, Bohemia, Moravia, and Galicia. But the extraordinary variety of the natural resources of Austria has led to an extraordinary variety of industries; and, over and above this inquiry into country labour and its wages, there is room for investigations like that of Dr. Bauer into the wages and general condition of the Moravian mechanics, to supplement the volume before us.[5]

The present volume consists of two parts. Part 1 gives the plan of the inquiry, an account of the tenures and distribution of properties in the various districts, and a digest of the statistics relating to the real and nominal wages of the various labourers. The answers furnished by the localities are checked by the returns made under the accidents insurance law, a test unhappily not applicable to the greater part of the materials. So far as it could be applied, the test confirmed on the whole the results of the inquiry. The elaborate "tables" of Part 2, contain not only figures but useful descriptions of the exact kind of work done by the persons whose wages are given. They give really a conspectus of the various agricultural and pastoral operations carried on in the Austrian empire.

Of these tables, Table VI (pp. 69 and 70) is made from the insurance returns, and has the merit of being as near absolute accuracy as is humanly possible. The data are founded on inquiries made by the officials after (and not before) an accident has occurred. The figures are for wages actually paid (and not simply as in other tables *rates* of wages) during the year preceding the accident, and they are gathered in a period of four years, 1890-93. (See Part 1, p. xxxv.) The following are the figures for Bohemia, the gulden being taken liberally as *2s.*[6]

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[5] *Die Arbeiter der Brünner Maschinen-Industrie* (Brünn, 1895) (in better type than the book under review). Compare *Die Materielle Lage des Arbeiterstandes in Oesterreich.* Vogelsang. (Vienna, 1884).

[6] The reckoning both in this book and in Dr. Bauer's is by the old currency of kreutzer and gulden.

Annual Earnings of Country Labourers, from the Data obtained by the Institutions for Insurance of Labourers against Accidents, 1890-93.

Districts and Classes of Labourers.	Numbers.		Total Earnings.		Average.		Number of Labourers receiving in the Year													
							Under 10*l.*		10*l.* to 20*l.*		20*l.* to 30*l.*		30*l.* to 40*l.*		40*l.* to 50*l.*		50*l.* to 60*l.*		Over 60*l.*	
	Men.	Women.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.
Bohemia.			£ *s.*	£ *s.*	£ *s.*	£ *s.*														
1. Strictly country labourers—																				
(*a*) From 16 to 60 years of age—																				
At fixed wages, skilled	8	—	190 8	—	23 16	—	—	—	3	—	2	—	3	—	—	—	—	—	—	—
At fixed wages, unskilled	209	110	3,859 -	1,606 6	18 10	14 12	9	10	146	91	38	9	9	—	4	—	3	—	—	—
Not at fixed wages, skilled	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Not at fixed wages, unskilled	63	20	1,012 -	258 8	16 2	12 18	4	5	49	14	9	1	1	—	—	—	—	—	—	—
Total	280	130	5,061 8	1,864 14	18 2	14 6	13	15	198	105	49	10	13	—	4	—	3	—	—	—
(*b*) Under 16	34	12	476 6	154 18	14 -	12 18	3	1	29	11	2	—	—	—	—	—	—	—	—	—
(*c*) Over 60	20	7	292 18	108 7	14 12	15 10	—	1	18	5	2	1	—	—	—	—	—	—	—	—
	334	149	5,830 12	2,128 6	17 10	14 6	16	17	245	121	58	11	13	—	4	—	3	—	—	—
2. Artisans	30	—	1,249 8	—	41 12	—	1	—	3	—	2	—	9	—	5	—	0	—	1	—
3. Servants (16 to 60)	18	56	281 6	868 2	17 16	15 15	1	5	10	44	1	7	1	—	—	—	—	—	—	—

Die Arbeiter der Brünner Maschinen-Industrie. vii + 198 pp., 4to. Brünn, 1895.

The able statistician of the Brünn Chamber of Commerce, Dr. Stephan Bauer, has prepared for the Chamber a report on the conditions of work and the wages of the employees in the engineering works of their district, as the first instalment of a research into the conditions of the larger industries of the neighbourhood.

The facts relating to the engineering trade are set forth in great detail from returns relating to the year April, 1891, to March, 1892; and, for the better comparison of results obtained from more or less numerous bodies of men, tables reduced to percentages, or to numbers per thousand, are given. Wages, hours worked, age, nationality, and trades are compared, with an examination into particulars which tends to bewilder the reader by the almost extravagant minuteness of detail. The extent of transference from trade to trade is also carefully examined. The study of the variation of hours worked and of earnings from month to month throughout the year is particularly interesting. The separation maintained throughout between the facts relating to different classes of workmen may serve to enable comparisons with other countries to be made, so far as similar names of trades correspond to similar work in different countries. A chapter is devoted to the clubs by means of which the workmen provide against sickness, &c., the rates of contribution and of corresponding benefit being given. The tables, giving both the actual numbers and the reduction to percentage or per mille figures, occupy about two-thirds of the return. The numbers of men from whom data were obtained was about 2,600. In some of the tables nearly 3,000 men are represented.

The Financial and Economical Condition of Netherlands India since 1870. By N. P. Van den Berg, LL.D. Third Edition. 61 pp., 4to. The Hague, 1895.

A former edition of this paper was noticed in the *Journal* some years since. The facts and figures have now been brought down to the end of 1894, and form a useful contribution to the study of the monetary question. The smallness of the variation of exchange on Europe, and the steadiness of the private discount rate (which has varied between 4 and 7 per cent. during the last eighteen years, with but three cases of a range greater than 1 per cent. in the year), make the study of this case specially instructive.

The appendices, eleven in number, contain detailed tables of figures of trade, prices, revenue, and expenditure.

La Statistique Officielle du Japon. Par M. G. Boissonade. 157 pp., 8vo. Tokyo, 1895.

This study of the official statistics of the Japanese empire was published in the *Revue française du Japon*, for which journal it was originally undertaken by the author.

At the beginning he informs us of the rapid advance which

Japan has made in the preparation and publication of statistics relating to various departments during the twenty years over which alone any of these records extend. The statistical abstract published annually since 1886 furnishes the materials on which the account of M. Boissonade is based. The arrangement of the various heads is alphabetical, an arrangement which, while possessing certain obvious advantages, presents also considerable difficulties to those who desire to refer to the information on more than one of such groups of connected subjects as army and navy, commerce and navigation, &c., while crime is treated under the heads of *justice*, *police*, *prisons*, *morts violentes*, and *vols*, with possibly some others. Altogether this essay furnishes an admirable example of the difficulties which the apparently simple alphabetical arrangement involves.

The information afforded of the condition of Japan is varied and interesting. The Government, naval and military equipment, trade, industry, agriculture, religion, education, &c., are all dealt with. Most of the tables given refer to the years 1891 and 1892. In some few cases, as, for example, the rates of exchange, figures for a series of years are compared. In this case the rates of exchange on the three principal European centres and on San Francisco are given for ten years to 1892, and for October, 1894.

It would be impossible to summarise here even the most striking of the facts recorded, modest as is the size of the volume containing them. Those interested in the rising empire of the East may be referred for concise information to M. Boissonade's essay.

Statistical and Economical Articles in Recent Periodicals.

UNITED KINGDOM—

Economic Journal. Vol. v, No. 19, September, 1895—

Index Numbers and Appreciation of Gold: *N. G. Pierson.* The Economic Lessons of Socialism: *H. Sidgwick.* Some Economic Issues in regard to Old-age Pensions: *C. S. Loch.* Wages in the United States and in Great Britain, 1860-91: *A. L. Bowley.* Bread Laws and the Price of Bread: *J. Kirkland.* The Middleman in Finance: *F. Steele.* Thoughts on Monetary Reform: *F. Y. Edgeworth.*

Economic Review. Vol. v, No. 4, October, 1895—

The Evolution of Agricultural Science: *R. M. Garnier.* The Administration of Charity: *Louisa Twining.* Women's Settlements: *Mary Talbot.* The General Election, and the Prospects of Social Legislation: *Rev. W. Cunningham.*

UNITED STATES—

Annals of the American Academy of Political and Social Science. Vol. vi, No. 3, November, 1895—

Recent Political Experiments in the Swiss Democracy: *L. Wauriu.* Social Basis of Proportional Representation:

UNITED STATES—*Contd.*

Annals of the American Academy of Political and Social Science. Vol. vi, No. 3, November, 1895—Contd.

J. W. Jenks. Custody of State Funds: *E. R. Buckley.* Problem of Sociology: *G. Simmel.* Railway Departments for the Relief and Insurance of Employés: *E. R. Johnson.*

Journal of Political Economy. Vol. iii, No. 4, September, 1895—

Money and Credit Paper in the Modern Market: *W. Fisher.* Evolution of the Idea of Value: *W. G. L. Taylor.* Taxation in Chicago and Philadelphia: *J. R. Commons.* Notes on the History of "Unemployment" and Relief Measures in the United States: *C. C. Closson.*

Political Science Quarterly. Vol. x, No. 3, September, 1895—

The Gold Standard in Recent Theory: *J. B. Clark.* The Study of Statistics: *R. Mayo-Smith.* Labor and Politics in England: *J. Mavor.*

Quarterly Journal of Economics. Vol. x, No. 1, October, 1895—

The Concluding Volume of Marx's Capital: *W. Lexis.* Tenancy in the United States: *G. K. Holmes.* A Standard of Values: *J. W. Bascom.* The Employer's place in Distribution: *F. W. Taussig.*

Yale Review. Vol. iv, No. 3, November, 1895—

Freeman the Scholar and Professor: *H. B. Adams.* The Economic Reforms of the late English Liberal Administration: *E. Porritt.* The Referendum, and other forms of direct democracy in Switzerland: *E. V. Raynolds.*

FRANCE—

Annales de l'Ecole Libre des Sciences Politiques—

No. 4. *July,* 1895—

La Politique Française dans l'Indo-Chine: *J. Silvestre (continued in following numbers).*

No. 5. *September,* 1895—

Les Chambres de Commerce: *L. J. Gras (concluded in November number).* Les Chemins de Fer aux Etats-Unis. La consolidation ou la formation des grands Réseaux: *L. Paul-Dubois.*

No. 6. *November,* 1895—

La Circulation monétaire aux Etats-Unis de 1878 à 1893: *A. Viallate.*

Journal des Economistes—

September, 1895—

Les Attaques contre le Capitalisme, au xvi^{e} siècle, en Allemagne: *E. Castelot.* Mouvement scientifique et industriel: *D. Bellet.* Le Commerce de la France avec l'Italie (1887-94): *M. Zablet.*

October, 1895—

Des Principes de l'Impôt: *G. du Puynode.* Les Banques aux Etats-Unis en 1894: *G. François.* Le Développement industriel du Japon: *D. Bellet.*

FRANCE—*Contd.*

Journal des Economistes—Contd.

November, 1895—

Le Renouvellement du Privilège des Banques coloniales: *B. de Belle.* Le Mouvement agricole: *G. Fouquet.* Les Relations commerciales de la France et de l'Espagne (1891-94): *M. Zablet.* Nos Concurrents en Afrique: *M. d'Estrey.* Les Grèves aux Etats-Unis.

Journal de la Société de Statistique de Paris—

No. 10. *October*, 1895—

L'Impôt dans une famille parisienne (*continued*): *L. Beaurin-Gressier.* Le Coût de la vie à Paris à diverses époques: *G. Bienaymé* (*concluded*).

No. 11. *November*, 1895—

Le Problème monétaire: *F. de Flaix* (*concluded*). Chronique des banques, changes et métaux précieux: *P. des Essars.*

La Réforme Sociale—

No. 112. 16*th September*, 1895—

La Question agraire en Allemagne: *G. Blondel.* Le dernier congrès pénitentiaire international à Paris: *H. Joly.* Le Socialisme municipal: *A. des Cilleuls.* Les Unions de la paix sociale et les Ecoles socialistes: *A. Delaire.*

No. 113. 1*st October*, 1895—

Coup d'œil sur l'Amérique: *U. Guérin.* L'inspection du travail en Belgique: *O. Pyfferoen.* Les Assurances ouvrières: *E. Cheysson.* Le Mouvement social à l'Etranger: *J. Cazajeux* (*continued in next number*).

No. 114. 16*th October*, 1895—

Les Contradictions fiscales: *A. des Cilleuls.* La Question agraire en Angleterre: *P. Arminjon* (*continued in Nos.* 115 *and* 116). L'Industrie armurière liégoise, ses origines historiques et son organisation technique: *A. Julin.*

No. 115. 1*st November*, 1895—

La Monographie. La Statistique et ses deux grandes méthodes: *E. Cheysson.* Du rôle pratique des partages d'ascendants: *C. Hardy.* La Société civile immobilière de Tourcoing. L'ouvrier propriétaire et capitaliste: *L. B. Flipo.*

No. 116. 16*th November*, 1895—

La Famille fait l'Etat: *F. Funck-Brentano.* La faiencerie de Choisy-le-Roi et ses Institutions patronales.

Revue d'Economie Politique. Nos. 10 *and* 11. *October—November*, 1895—

Les commencements du crédit public en France: Les Rentes sur l'Hotel de Ville au xvi^e^ siècle: *P. Cauwès.* Wilhelm Roscher: *A. de Miaskowski.* De la mesure de la Valeur: *Bourguin* (*concluded*).

GERMANY—

Archiv für Soziale Gesetzgebung und Statistik. Band viii, Heft 3. 1895—

Das Verbrechen als soziale Erscheinung: *F. Tönnies.* Die neuesten Versuche einer staatlichen Regelung des Getreide-

GERMANY—*Contd.*

Archiv für Soziale Gesetzgebung und Statistik. Band viii, Heft 3. 1895—*Contd.*

handels: *K. Thiess.* Ein Beitrag zur Geschichte der wirthschaftlichen Kartelle: *G. Cohn.* Eine Studie zum osteuropäischen Merkantilismus: *G. v. Schulze-Gaevernitz.*

Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Heft 4. 1895—

Die Einkommensverteilung in alter und neuer Zeit: *G. Schmoller.* Das Recht der Schuldverhältnisse im deutschen Civilgesetzentwurf. (Second part.) Socialrechtliche Betrachtungen: *P. Oertmann.* Über die wirtschaftspolitischen Beziehungen Deutschlands zu Rumänien: *M. Ströll.* Die Belastung des augsburgischen Grosskapitals durch die Vermögenssteuer des 16 Jahrhunderts: *J. Hartung.* Die Ergebnisse der deutschen Silberenquête: *W. Lotz* (*concluded*).

Jahrbücher für Nationalökonomie und Statistik. Dritte Folge—

Band x, Heft 2—

Studien zur Geschichte und Natur des ältesten Cambium: *A. Schaube.* Goldwährung mit Papierumlauf: *T. Hertzka.* Das schlesische Dreiding: *P. Frauenstädt.* Die Preise des Jahres 1894 verglichen mit den Vorjahren.

Band x, Heft 3—

Kritische Betrachtungen zur theoretischen Statistik: *L. Bortkewitsch.* Der Getreidehandel in den Vereinigten Staaten von Amerika und seine Organisation: *H. Schumacher.*

Band x, Heft 5—

Schiffahrtsstrassen im Deutschen Reich, ihre bisherige und zukünftige Entwickelung und ihre gegenwärtige wirtschaftliche und finanzielle Ausnutzung: *Kurs.* Agrarstatistische Untersuchungen: *J. Conrad.* Die wirtschaftlichen Fragen des 23 deutschen Juristentags: *Zeller.*

Vierteljahrsschrift für Staats- und Volkswirtschaft. Band iv, Heft 3. 1895—

Zwei französische Budgets, 1845 und 1895: *M. Block.* Über Begriff und Methode des allgemeinen Staatsrechts: *K. Rieker.* Der erste Ausbau des Systems der Gewerbefreiheit in Preussen: *K. von Rohrscheidt.*

Zeitschrift für die Gesammte Staatswissenschaft. Heft 1. 1896—

Der öffentliche Haushalt der Stadt Frankfurt im Mittelalter: *K. Bücher.* Die belgische Verfassungsrevision: *C. Bornhak.* Ueber das Problem des Kapitalzinses: *B. Thorsch.* Das menschliche Glück und die soziale Frage. Beiträge zu einer Psychologie der Volkswirtschaft: *Dr. von Schubert-Soldern* (*to be continued*). Die Ausschliessung der verheirateten Frauen aus der Fabrik. Eine Studie an der Textil-Industrie: *R. Martin* (*to be continued*). Zur württembergischen Steuerreform: *Dr. Zeller.*

AUSTRIA—

Statistische Monatschrift—

July, 1895—

Die landwirthschaftlichen Arbeiter und deren Löhne in den im Reichsrathe vertretenen Königreichen und Ländern: *K. T. von Inama-Sternegg* (*concluded in next number*). Dio Kindersterblichkeit Wiens in den letzten 25 Jahren (1869-94): *Bratassevic.* Sterblichkeit nach dem Alter im Reichsrathe vertretenen Königreichen und Ländern: *Thornton.* Zur Statistik der Consumvereine Oesterreichs: *H. Ehrenberger.*

August—September—October, 1895—

Anbauflächen der Zuckerrüben nach dem Stande vom 1 Juni, 1895. Die Production von Cocons, Honig und Wachs in den im Reichrathe vertretenen Königreichen und Ländern im Jahre 1894. Die österreichischen Assecuranz-Gesellschaften im Jahre 1893: *R. Krickl.*

ITALY—

Giornale degli Economisti—

October, 1895—

La base agronomica della teoria della rendita: *G. Valenti* (*continuation*). La legge del valore secondo la dottrina della utilita limite: *D. Berardi* (*concluded*). Il censimento Svizzero del 1888: *G. B. Salvioni.* (Supplement.) I trattati e compendii tedeschi d'economia politica. Saggio bibliografico: *L. Cossa.*

November, 1895—

La caduta della Società generale di credito mobiliare Italiano: *M. Pantaleoni* (*concluded*). La crise agraria nell' Inghilterra: *L. Einaudi* (*continued in December number*).

December, 1895—

Le soluzioni del problema dei disoccupati: *G. Fiamingo.* Gli impieghi delle Casse di Risparmio: *G. Rodolico.*

SWITZERLAND—

Journal de Statistique Suisse—

Heft 3. 1895—

Die Influenza in der Schweiz in den Jahren 1889 bis 1894: *Dr. F. Schmid.*

Heft 4. 1895—

Die Todesfälle infolge Infektionskrankheiten in den 15 grössern Städten der Schweiz während der Jahre 1892 und 1893: *J. G. Berger.* Staatliche Auslagen für Krankenpflege in der Schweiz in den Jahren 1890-92. Materialien zur Arbeit über die Altersversorgung der bern. Primarlehrerschaft: *J. H. Graf.* Bewegung der Bevölkerung in der Schweiz während dem 2 Quartal 1895.

VII.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15*th December*, 1895, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries.	
Argentine Republic—	
Anuario de la Direccion General de Estadistica correspondiente á 1894. 8vo.	The Director-General of Statistics
Comercio Exterior Argentino. Año 1895. No. 86. Importacion y Exportacion de los primeros semestres de 1894 y 1895. 8vo.	
Higiene. Anales del Departamento Nacional de. (Current numbers)	Dr. E. R. Coni
Buenos Ayres (*Province*). La Industria Harinera en la Provincia. Fol. 1895	The Provincial Statistical Bureau
Buenos Ayres (*City*). Monthly Return of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Instituto Geografico Argentino. Boletin del. (Current numbers.) Maps, 8vo. 1895	The Institute
Austria-Hungary—	
Anbauflächen der Zuckerrüben nach dem Stande vom 1 Juni, 1895. Map, 8vo.	The Ministry of Agriculture
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Gewerblichen Genossenschaften in Österreich. 2 vols. Fol., 1895	
Handel. Statistische Übersichten betreffend den auswärtigen, des österr.-ungar. Zollgebiets. (Current monthly numbers)	
Handels. Statistik des auswärtigen, des österr.-ungar. Zollgebiets, 1893, Band i. Einleitung, Hauptergebnisse, Waren-Verkehr mit den einzelnen Staaten und Gebieten. 1894, Band ii. Specialhandel. 8vo.	
Landwirtschaftlichen Löhne . . . nach dem Stande des Jahres 1893. Fol.	The Central Statistical Commission
Rechtspflege. Ergebnisse der Civilrechtspflege im Jahre 1892. Fol.	
Sanitätswesens. Statistik des, für 1892. Fol.	
Statistische Monatschrift. (Current numbers)	
Unterrichtswesen. Aufwand für das öffentliche, . . . auf Grund der Erhebung des Jahres 1890. Fol.	
Verkehrs, Statistik des, 1881-91. Fol.	—
Volksschulen und Bürgerschulen. Statistik der allgemeinen, 1890. Fol.	

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries—*Contd.*	
Austria-Hungary—*Contd.*	
Hungary—	
Landwirtschaftliche Production der Länder der Ungarischen Krone in den Jahren 1893 und 1894. La. fol. Waarenverkehr der Länder der Ungarischen Krone im Jahre 1894. La. fol.	The Royal Hungarian Statistical Bureau
Bosnia and Herzegovina. Vorläufige Ergebnisse der Volkszählung in Bosnien und der Herzegovina vom 22 April, 1895. La. 8vo.	The Statistical Bureau
Budapest—	
Die Hauptstadt Budapest im Jahre 1891. Resultate der Volksbeschreibung und Volkszählung. Band 2. Maps and diagrams, 8vo.	The Municipal Statistical Bureau
Geschichte des Statistischen Bureaus der Haupt- und Residenzstadt Budapest, 1869-94. 8vo.	—
Prague. Bulletins hebdomadaires et trimestriels de la ville de Prague et des communes - faubourgs. (Current numbers)	The Municipal Statistical Bureau
Belgium—	
Annales des Travaux Publics de Belgique. Tome lii, Cahier 2. 8vo. 1895	The Administration of Mines
Commercial, Tableaux du Mouvement, avec les Pays Etrangers. (Current monthly numbers)	The Bureau of General Statistics
Brussels. Bulletins hebdomadaires et trimestriel de statistique démographique et sanitaire. (Current numbers)	Dr. E. Janssens
Académie Royale de Belgique—	
Annuaire de l'Académie. 1894 et 1895. 2 vols. Portraits, sm. 8vo. Bulletins de l'Académie. 3e Sére. Tomes 26—29. Plates, &c., 8vo. 1893-95	The Academy
Bulgaria—	
Mouvement commercial de la Bulgarie avec les pays étrangers. Mouvement de la navigation par ports. Prix moyens dans les principales villes (current monthly numbers). La. 8vo	The Statistical Bureau
China—	
Customs Gazette. No. 106, April—June, 1895 Medical Reports for years ended 30th Sept., 1893 and 1894. 4to.	Sir Robert Hart, Bart., G.C.M.G.
Denmark—	
Nationalökonomisk Tidskrift, 1895. (Current numbers)	The Danish Political Economy Society
Egypt—	
Services Sanitaires, &c. Bulletin hebdomadaire de l'Administration des. (Current numbers)	The Health Department
France—	
Agriculture. Bulletin du Ministère de l'. 14e année. Nos. 6, 7, 1895	The Ministry of Agriculture

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) **Foreign Countries**—*Contd.*	
France—*Contd.*	
Agriculture. Récoltes des Céréales et des Pommes de terre de 1815 à 1876. 4to.	Purchased
Album de Statistique Graphique de 1894. (Chemins de Fer, Navigation intérieure, Navigation maritime, divers.) 4to.	The Ministry of Public Works
Archives Statistiques du Ministère des Travaux Publics, de l'Agriculture et du Commerce. 4to. 1837	Purchased
Assistance Publique. Conseil supérieur de l', Rapport sur les secours à domicile dans Paris. Plans, 4to. [1894]	—
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Documents Statistiques sur la France. (Territoire, Population, Commerce, Navigation, Colonies, Administration intérieure, Finances, Forces militaires.) 1 vol., 4to. 1835	
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Navigation intérieure. Statistique de la, Relevé général du Tonnage des Marchandises. Année 1894. 2 vols. Maps, &c., 4to	The Ministry of Public Works
Ports Maritimes du Commerce. Statistique des, 4to. 1839	Purchased
Prix moyens, mensuels et annuels de l'Hectolitre de Froment en France par Departement. Tableaux des, depuis 1800 jusqu'à 1870. 4to.	
Travaux Publics, Ministère des. Bulletin de Statistique et Législation comparée. (Current monthly numbers)	The Ministry of Public Works
Travail, Office du—	
Bulletin. (Current monthly numbers.) 8vo.	The French Labour Department
Etude sur les derniers résultats des assurances sociales en Allemagne et en Autriche. 2ᵉ Partie, Maladie, Invalidité et Vieillesse. 8vo. 1895	
Hygiène et sécurité des travailleurs dans les ateliers industriels. Legislation française et étrangère. 8vo. 1895	
Note sur la Statistique du Chômage. (Epreuve.) Diagrams, 4to. 1895	Sir R. W. Rawson, K.C.M.G., C.B.
Annuaire de l'Economie Politique et de la Statistique, 1895	Purchased
Economiste Français. (Current weekly numbers)	The Editor
Etudes religieuses, philosophiques, &c. Revue mensuelle. Oct., 1895 (containing—Les derniers renseignements officiels sur les mouvements de la population en France, par l'Abbé P. Fortin). 8vo.	The Author
Journal des Economistes. (Current monthly numbers)	The Editor
Monde Economique. (Current weekly numbers)	"
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	"
Réforme Sociale. (Current numbers)	"
Rentier. Journal Financier Politique. (Current numbers)	"

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Donations.	By whom Presented (when not purchased).
(a) **Foreign Countries**—*Contd.*	
France—*Contd.*	
Revue d'Economie Politique. (Current monthly numbers)	The Editor
Ecole Libre des Sciences Politiques. Annales. Année 1895, Nos. 5 et 6	The Institution
Société de Statistique de Paris. Journal. (Current monthly numbers)	The Society
Germany—	
Deutsche Justiz-Statistik. Jahrgang vii. [1893.] 8vo. 1895	The Imperial Judicial Bureau
Handel des deutschen Zollgebiets. Monatliche Nachweise über den Auswärtigen. (Current numbers)	The Imperial Statistical Bureau
Handel, Auswärtiger, des deutschen Zollgebiets im Jahre 1894. Theil 2. Darstellung nach Waaren-Gattungen. 4to	
Seeschifffahrt. Statistik der, für 1894. Abth. i. 4to.	
Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1895. Heft 4. 4to.	
Protokoll über die am 13—16 Mai, 1895 im . . . Frankfurt-a.-M. abgehaltene x Conferenz der Vorstände der Statistischen Aemter deutscher Städte. 17 + 37 pp. Fol. Frankfurt-a.-M. 1895	The Statistical Bureau of Frankfort
Mecklenburg. Beiträge zur Statistik Mecklenburgs. Band 12, Heft 1 und 3. 2 vols. 4to. 1892-95	— „
Berlin. Eheschliessungen, Geburten, Sterbefälle, und Witterung. (Current weekly and monthly numbers)	The Municipal Statistical Bureau
Dresden. Monatsberichte des Statistischen Amts der Stadt. (Current numbers)	The Statistical Bureau
Frankfort. Mittheilungen aus der Handelskammer. (Current numbers)	The Chamber of Commerce
Hanover. Monatsberichte des Statistischen Amtes der Stadt. (Current monthly numbers)	The Statistical Bureau
Archiv für Soziale Gesetzgebung und Statistik. Band viii, Heft 3. 1895	The Publisher
Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft im Deutschen Reich. Jahrgang xix, Heft 4. 1895	The Editor
Jahrbücher für Nationalökonomie und Statistik. (Current monthly numbers)	The Publisher
Zeitschrift für die gesammte Staatswissenschaft. 52 Jahrgang. Heft 1. 1896	„
Vierteljahrsschrift für Staats- und Volkswirtschaft für Litteratur und Geschichte der Staatswissenschaften aller Länder. Band iv, Heft 3. 8vo. 1895	The Editor
Italy—	
Annali dell' Industria e del Commercio, 1893-95. Commissione centrale dei valori per le Dogane. Atti per la Sessione 1892-93, 1894-95. 2 vols. 8vo.	—
Banche Popolari. Anno 1893. 8vo	The Director-General of Statistics
Bollettino di Legislazione e Statistica Doganale e Commerciale. (Current monthly numbers)	
Bollettino di notizie sul Credito e la Previdenza. (Current numbers)	

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) **Foreign Countries**—*Contd.*	
Italy—*Contd.*	
Bollettino Sanitario, Direzione della Sanita Pubblica. (Current monthly numbers)	The Director-General of Statistics
Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
Minerario. Relazione generale sul servizio, 1891, 92, and 1894. 3 vols. 8vo.	—
Notizie sui Prezzi dei principali Prodotti Agraria e del Pane in 72 mercati del Regno. (Current numbers)	The Director-General of Statistics
Popolazione. Movimento dello Stato Civile. Anno 1894. 8vo.	
L'Economista. (Current weekly numbers)	The Editor
Giornale degli Economisti. (Current monthly numbers)	„
Japan—	
Cholera Epidemic of 1890. Brief review of operations of the Home Department in connection with the. 8vo.	—
Tokio-Fu. Weekly and monthly reports of Births, Marriages, and Deaths. (Current numbers)	The Governor of Tokio-Fu
Mexico—	
Estadistica Fiscal. Datos relativos. (Current numbers)	The Statistical Bureau
Netherlands—	
Annuaire Statistique des Pays-Bas. Métropole. 1894 et années antérieures. 8vo.	The Central Statistical Commission
Geboorten. Statistiek der, en der sterfte naar den leeftijd en de oorzaken van den dood. (Current monthly numbers)	The Department of the Interior
Maandcijfers en andere periodieke opgaven . . . Uitgegeven door de Centrale Commissie voor de Statistiek. Jaar 1894. No. 5. 8vo.	The Central Statistical Commission
Scheepvaart. Statistiek der, 1894. Gedeelte 2. 4to. 1895	Dr. G. de Bosch Kemper
Staten van de In-, Uit-, en Doorgevoerde voornaamste Handelsartikelen. (Current monthly numbers)	The Director-General of Customs
Statistiek van den In-, Uit-, en Doorvoer over het Jaar 1894. Gedeelte 2. Fol.	
Norway—	
Norges officielle Statistik. Tredie Række:—	
217. Agriculture et bétail, 1886-90	The Central Statistical Bureau
218. Service vétérinaire et contrôle de la Viande, 1893	
219. Statistique électorale, 1815-85	
220. Statistique des pénitentiaires, 1892-93	
221. Statistique postale, 1894	
222. Etat sanitaire et médical, 1892	
Portugal—	
Annuario Estatistico da Direcçao Geral das Contribuições Directas, 1886-89. 4 vols., obl. 8vo.	—

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CHARING CROSS, S.W.

1895.

ROYAL STATISTICAL SOCIETY,

No. 9, Adelphi Terrace, Strand, W.C., London.

NOTICES TO FELLOWS.

December, 1895.

The Council desire to call the attention of the Fellows to the fact that notwithstanding the change in the name of the Society by the addition of the word "Royal," they are still, in using letters after their names, signifying the membership of the Society, only entitled under Rule 6, to use the letters F.S.S.

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By Order of the Executive Committee.

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AN OUTLINE OF ITS OBJECTS.

The *Royal Statistical Society* was founded, in pursuance of a recommendation of the British Association for the Advancement of Science, on the 15th of March, 1834; its objects being, the careful collection, arrangement, discussion and publication, of facts bearing on and illustrating the complex relations of modern society in its social, economical, and political aspects,—especially facts which can be stated numerically and arranged in tables;—and also, to form a Statistical Library as rapidly as its funds would permit.

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* Before 1870 the price varied.

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Founded 15*th March*, 1834, *Incorporated* 31*st January*, 1887.

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Presidents.

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Donations of any portion thereof will be acceptable, and will be duly acknowledged by the Society.

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Argentine Republic—

Educacion Comun. Informe sobre el estado de la, durante 1885-90.

Buenos Aires. Registro Estadistico de la Provincia de, for 1872, and for earlier years except 1854.

Austria-Hungary—

Ackerbau-Ministeriums. Statistisches Jahrbuch des k.k., for 1874; Hefte 1—3, and Lief. 2 of Heft 4 for 1875; Hefte 1—3 for 1876; Hefte 1, 2, and Lief. 1 of Heft 3 for 1877; Hefte 1, 2, and Lief. 1 of Heft 3 for 1878; for 1879-81; Hefte 1, 2, and Lief. 1 of Heft 3 for 1882; for 1883; Hefte 1, 2 for 1884; Lief. 2 of Heft 3 for 1885; Lief. 1 and 2 of Heft 3 for 1886; Lief. 2 of Heft 3 for 1887; Heft 2 for 1890; Hefte 1 and 3 for 1891.

Entwicklung von Industrie und Gewerbe in Österreich, 1848-88 herausg. von der Kommission der Wiener Jubilæums- und Gewerbe Ausstellung. Wien, 1888.

Handel. Ausweise über den auswärtigen, der Oesterreichischen Monarchie. 1866, 1871, 1875, and Abth. 2, 3 of 1880.

Oesterreichisches Statistisches Handbuch. 1882-84.

Sanitätswesens. Statistik des, für 1887. Fol.

Statistisches Jahrbuch der Oesterreichischen Monarchie für 1863-68. 8vo.

Statistische Monatschrift. 1875-83.

Strafrechtspflege. Ergebnisse der, Heft 2 of 1884; Hefte 2 and 3 of 1886.

Vienna. Statistisches Jahrbuch der Stadt Wien, for 1883 and earlier years, 1885, *et seq.*

Belgium—

Chemins de Fer. Compte-Rendu des Opérations pendant 1843, 1860, 1861, 1863, 1864, 1868, 1884.
Justice Criminelle et Civile. Résumé Statistique. 1860 and for earlier years.
Population. Relevé de la, 1er Janvier, 1831.
Population. Recensement de la, en 1866.
Brussels. Annuaire Démographique et Tableaux Statistiques des causes de décès. No. 10, 1871.

Brazil—

Agriculture. Renseignements sur l'. 1874.
Instruction Primaire. Statistique de l'. 1882.
Population de l'Empire. Rapport de la Commission de Statistique sur la. 1827.

Chile—

Estadistica Comercial, 1881-83, 1885 and 1886.

Denmark—

Statistisk Tabelværk—
  Ældste Række, 1835-47. (All the series.)
  Ny Række. Bind 2—11, and 20—26, 1851-64.
  Tredie Række. Bind 1—26, 1863-73.
Meddelelser fra det statistiske Bureau. Samling vi, 1861.
Statistiske Meddelelser. Bind 1—13, 1862-77.
Sammendrag af Statist. Oplysninger ang. Kongeriget Danmark. Nr. 1—5, 1869-73.

France—

Atlas Statistique de l'Administration des Forêts de la France.
Chemins de Fer. Documents Statistiques pour 1867, 1869, 1873-75, 1877, 1883.
Colonies. Statistiques Coloniales pour 1883-85 et 1887.
Denombrement de 1886. 2e Partie Algérie, et recensement des Français à l'étranger. La. 8vo.
Pénitentiaires. Statistique des établissements, for 1889, and earlier years.
Religion. Statistique des cultes, 1888-90.
Revue Maritime et Coloniale. Tome 88, 294e Livraison, 1886.
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Census of 1886. Fol.
Statistics of the Colony for 1887. Fol.
Vital Statistics. Annual Reports on, for 1886 and 1887. Fol.

Tasmania—

Statistics of the Colony, 1885 and 1887. Fol.

Victoria—

Censuses of 1871 and 1881. Fol.
Handbook of the Colony, 1884. 8vo.
Victorian Year-Book for 1874-92. 8vo.

(c) United Kingdom and its Divisions.

United Kingdom—

Army Medical Department. Reports. Vols. 16, 1874; 17, 1875; 22, 1880. 8vo.
Mineral Statistics of the United Kingdom for 1881, 1882, 1885, and 1887. Fol.
Miscellaneous Statistics. Parts 2, 1859; 6, 1866; 9, 1875; 10, 1879. Fol.
National Provident Insurance. Report of Select Committee (257), 1887. Fol.
Trade of United Kingdom. Annual Statements for 1873-76, 1878-81. Fol.

England and Wales—

Census of 1871. Vols. 1—3. Fol.
Judicial Statistics for 1864-69, 1871, 1873-86. 4to.

Ireland—

Judicial Statistics for 1868, 1870, 1871, 1873, 1875-76. 4to.

Scotland—

Judicial Statistics. 1st, 13th, 16th, and 17th Reports on, 1868-84. 4to.

(d) Authors, &c.

Atkinson (*Edward*). Collection of the Revenue. 8vo. 1867.
Balbi (*Adrien*). Essai statistique sur le royaume de Portugal. 8vo. Paris, 1822.
Brachelli (*Hugo F.*)—
Statistische Skizze der Oesterr.-Ungarn. Monarchie. Aufl. 10. 8vo. 1855.
Statistische Skizzen der Europäischen und Amerikanischen Staaten. Abtheilung 1 and 2. 8vo. 1887.

(d) **Authors, &c.**—*Contd.*

Ellison (*Thomas*). Handbook of the Cotton Trade. 8vo. 1858.
Fleming (*William*). Index to our Railway System. Second number. 8vo.
Gibson (*G. R.*). The Stock Exchanges of London, Paris, and New York. 8vo. 1889.
Goldsmith (*Lewis*). Statistics of France. 8vo. 1832.
Howell (*George*). Handy Book of the Labour Laws. 8vo. 1880.
Johnson (*George*). Johnson's Graphic Statistics. Diagrams, 8vo. 1888.
Kitts (*E. J.*). Compendium of the Castes and Tribes found in India. Fol. 1885.
Morselli (*E.*). Critica e Riforma del Metodo in Antropologia. 8vo. 1880.
Necker (*M.*). Administration des Finances de la France. Tomes 1 and 3. 8vo. 1784.
Norman (*George W.*). On the pressure of Taxation in this and other Countries. 4th edit. 8vo. 1864.
Salt (*S.*). Railway and Commercial Information. 12mo. 1850.
Smith (*John*). Chronicon Rusticum-Commerciale, or Memoirs of Wool. Vol. 2. 8vo. 1747.

(e) **Societies, &c. (British).**

British Iron Trade Association. Annual Reports for 1881, 1882, and 1885. 8vo.
Cobden Club. Systems of Land Tenure. 2nd edit. 8vo. 1870.
Index Society. Publications for 1878-90. 17 vols., sm. 4to.
Iron and Steel Institute. Journal, 1879. 8vo.
King's College Calendars for 1875-85. 10 vols., 12mo.
University College Calendars for 1853-92. 23 vols., 8vo.

(f) **Periodicals (British).**

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Australian and New Zealand Gazette for 1858-59. 3 vols. (bound), fol.
Financial Reform Almanack for 1870, 1871, 1879, 1880, 1882. 8vo.
Foreign Office Lists for 1875-92. 8vo.
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Saturday Review for 1856-80. 42 vols. (bound), fol.
War Office Lists for 1874-92. 8vo.
Whitaker's Almanac for 1872, 1873, 1875. 8vo.

ERRATUM.

Page 502. Table IV. Public Debt of France. The figures for the *floating debt* only, instead of the *whole debt*, have been given for 1882 and 1892. The total debt should therefore read—

1892......	£1,042,393	instead of	£38,302
'82......	953,192	,,	93,473
	+ 89,201	,,	− 55,171

The statement on page 491 (lines 4—7) should be amended accordingly.

NOTICE.

The Council of the Royal Statistical Society wish it to be understood, that, while they consider it their duty to adopt every means within their power to test the facts inserted in this *Journal*, they do not hold themselves responsible for their accuracy, which must rest upon the authority of the several Contributors.

APPENDIX.

(Corrected to 31st December, 1895.)

ROYAL STATISTICAL SOCIETY.

(FOUNDED 1834. INCORPORATED 1887.)

9, ADELPHI TERRACE,
STRAND, W.C., LONDON.

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LONDON:
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1896.

ROYAL STATISTICAL SOCIETY,

9, Adelphi Terrace, Strand, W.C., London.

Honorary President.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G.

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Chief Clerk and Librarian.

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ROYAL STATISTICAL SOCIETY.

No. 9, Adelphi Terrace, Strand, W.C., London.

NOTICES TO FELLOWS.

December, 1895.

The Council desire to call the attention of the Fellows to the fact that notwithstanding the change in the name of the Society by the addition of the word "Royal," they are still, in using letters after their names, signifying the membership of the Society, only entitled under Rule 6, to use the letters F.S.S.

Annual Subscriptions are due in advance, on the 1st of January in each year. A Form for authorising a Banker or Agent to pay the Subscription Annually will be forwarded by the Assistant Secretary, on application. When convenient, this mode of payment is recommended. Drafts should be made payable to the order of "The Royal Statistical Society," and crossed "*Drummond and Co.*"

To be included in the Ballot at any particular Ordinary Meeting, the Nomination Papers of Candidates for Fellowship, must be lodged at the Office of the Society, at least six days before the date of such Meeting.

Fellows who may desire to receive Special and Separate Notices of each Paper to be read before the Society at the Ordinary Meetings, should indicate their wishes to the Assistant Secretary.

The Ordinary Meetings of the Society, during the Session 1895-96, will be held in **The New Lecture Theatre of the Royal United Service Institution, Whitehall, S.W.**

Fellows are entitled to a copy of the Catalogue of the Library and of the Index to the Catalogue. They may be had on personal application at the office, or will be forwarded upon the payment of carriage (1*s*. per parcel post). Fellows residing abroad or in the colonies are requested to send the necessary amount to cover postage, according to postal circumstances. (Weight, 3 lb. 14 oz. and 2 lb. 10 oz. respectively.)

The Library and the Reading Room are open daily for the use of Fellows from 10 a.m. to 5 p.m., excepting on Saturdays, when they are closed at 2 p.m.

Fellows borrowing books from the Library are requested to be good enough to return them with as little delay as possible, but without fail at the expiration of a month, and without waiting for them to be recalled.

Fellows changing their Addresses are requested to notify the same to the Assistant Secretary, so that delay or error in forwarding communications, or the *Journal*, may be avoided.

By Order of the Executive Committee.

CALENDAR FOR THE SESSION 1895-96.

1895	MON.	TUES.	WED.	THURS.	FRI.	SATUR.	SUN.	1896	MON.	TUES.	WED.	THURS.	FRI.	SATUR.	SUN.
NOV.	...	...	...	...	1	2	3	MAY	...	...	...	...	1	2	3
	4	5	6	7	8	9	10		4	5	6	7	8	9	10
	11	12	13	14	15	16	17		11	12	13	14	15	16	17
	18	**19**	20	21	22	23	24		18	**19**	20	21	22	23	24
	25	26	27	28	29	30			25	26	27	28	29	30	31
DEC.		...	...	...	...	...	1	JUNE	1	2	3	4	5	6	7
	2	3	4	5	6	7	8		8	9	10	11	12	13	14
	9	10	11	12	13	14	15		15	**16**	17	18	19	20	21
	16	**17**	18	19	20	21	22		22	23	24	25	26	27	28
	23	24	25	26	27	28	29		29	30					
	30	31													
1896								JULY	...	...	1	2	3	4	5
JAN.		...	1	2	3	4	5		6	7	8	9	10	11	12
	6	7	8	9	10	11	12		13	14	15	16	17	18	19
	13	14	15	16	17	18	19		20	21	22	23	24	25	26
	20	**21**	22	23	24	25	26		27	28	29	30	31		
	27	28	29	30	31										
								AUG.	...	...	...	...	...	1	2
FEB.	...	...	...	...	...	1	2		3	4	5	6	7	8	9
	3	4	5	6	7	8	9		10	11	12	13	14	15	16
	10	11	12	13	14	15	16		17	18	19	20	21	22	23
	17	**18**	19	20	21	22	23		24	25	26	27	28	29	30
	24	25	26	27	28	29			31						
MAR.	...	...	...	...	...	...	1	SEP.	...	1	2	3	4	5	6
	2	3	4	5	6	7	8		7	8	9	10	11	12	13
	9	10	11	12	13	14	15		14	15	16	17	18	19	20
	16	**17**	18	19	20	21	22		21	22	23	24	25	26	27
	23	24	25	26	27	28	29		28	29	30				
	30	31													
								OCT.	...	...	...	1	2	3	4
APR.	...	...	1	2	3	4	5		5	6	7	8	9	10	11
	6	7	8	9	10	11	12		12	13	14	15	16	17	18
	13	14	15	16	17	18	19		19	20	21	22	23	24	25
	20	**21**	22	23	24	25	26		26	27	28	29	30	31	
	27	28	29	30											

The dates of the Ordinary Meetings of the Society, at which Papers are read and discussed, are marked in the Calendar above by **Black Figures.**

The Chair will be taken at 5 p.m., precisely.

These Meetings are held in **The New Lecture Theatre of the Royal United Service Institution, Whitehall, S.W.**

THE ANNUAL GENERAL MEETING
WILL BE HELD ON THE 23RD JUNE, 1896, AT 5 P.M.,
AT 9, ADELPHI TERRACE.

ROYAL STATISTICAL SOCIETY.

Programme of the Session 1895-96.

THE

ORDINARY MEETINGS

ARE HELD ON THE

THIRD TUESDAY IN THE MONTHS OF NOVEMBER—JUNE

In the NEW LECTURE THEATRE of the

ROYAL UNITED SERVICE INSTITUTION,

WHITEHALL, S.W., at 5 p.m.

Tuesday,	Nov.	19	Tuesday,	March	17
„	Dec.	17	„	April	21
„	Jan.	21	„	May	19
„	Feb.	18	„	June	16

The following Papers have been read (*Dec.*, 1895) :—

"Gold and Silver and the Money of the World." By LESLEY C. PROBYN. (Read 19th November.)

"A National System of Notification and Registration of Sickness." By A. NEWSHOLME, M.D. (Read 17th December.)

The following Papers have been offered; and from these and from others that may yet be offered, a selection will be made by the Council:—

"Parliamentary Representation in England, illustrated by the Elections of 1892 and 1895." By J. A. BAINES, C.S.I.

"The Theory of Averages; illustrated by the Statistics of an Unprogressive Community." By Professor F. Y. EDGEWORTH, M.A., D.C.L.

"The Progress of the Friendly Society of Ironfounders." By WILLIAM H. HEY.

"Pauperism in Scotland." By CHARLES S. LOCH, B.A.

"Railway Rates, and the Cost of Railway Carriage and Terminals." By R. PRICE-WILLIAMS, M.INST.C.E.

"Mental and Physical Conditions among 50,000 Children seen in 1892-94, and the Methods of Studying Recorded Observations, with special reference to the Determination of the Causes of Mental Dulness and other Defects." By FRANCIS WARNER, M.D., F.R.C.P., &c.

"Reformatory and Industrial Schools" (Howard Medal Prize Essay). By JOHN WATSON, M.A.

ROYAL STATISTICAL SOCIETY

AN OUTLINE OF ITS OBJECTS.

THE *Royal Statistical Society* was founded, in pursuance of a recommendation of the British Association for the Advancement of Science, on the 15th of March, 1834; its objects being, the careful collection, arrangement, discussion and publication, of facts bearing on and illustrating the complex relations of modern society in its social, economical, and political aspects,—especially facts which can be stated numerically and arranged in tables;—and also, to form a Statistical Library as rapidly as its funds would permit.

The Society from its inception has steadily progressed. It now possesses a valuable Library of about 30,000 volumes, and a Reading Room. Monthly meetings are held from November to June, which are well attended, and cultivate among its Fellows an active spirit of investigation; the Papers read before the Society are, with an abstract of the discussions thereon, published in its *Journal*, which now consists of fifty-eight annual volumes, and forms of itself a valuable library of reference.

The Society has originated and statistically conducted many special inquiries on subjects of economic or social interest, of which the results have been published in the *Journal*, or issued separately.

To enable the Society to extend its sphere of useful activity, and accomplish in a yet greater degree the various ends indicated, an increase in its numbers and revenue is desirable. With the desired increase in the number of Fellows, the Society will be enabled to publish standard works on Economic Science and Statistics, especially such as are out of print or scarce, and also greatly extend its collection of Foreign works. Such a well-arranged Library for reference, as would result, does not at present exist in England, and is obviously a great *desideratum*.

The Society is cosmopolitan, and consists of Fellows and Honorary Fellows, forming together a body, at the present time, of about *one thousand* Members.

The Annual Subscription to the Society is *Two Guineas*, and at present there is no entrance fee. Fellows may, on joining the Society, or afterwards, compound for all future Annual Subscriptions by a payment of *Twenty Guineas*.

The Fellows of the Society receive gratuitously a copy of each part of the *Journal* as published Quarterly, and have the privilege of purchasing back numbers at a reduced rate. The Library (reference and circulating), and the Reading Room, are open daily, for the convenience of Members.

Nomination Forms and any further information will be furnished, on application to the *Assistant Secretary*, 9, *Adelphi Terrace, Strand, W C., London*

ROYAL STATISTICAL SOCIETY.

LIST OF THE SOCIETY'S PUBLICATIONS.

Note.—Sets—or Copies of any number—of the *Journal*, or of the other Publications of the Society (if not out of print), can be obtained of the publisher, E. Stanford, 26 and 27, Cockspur Street, Charing Cross, London, S.W., or through any bookseller.

	Price.
Proceedings— 308 pp. 1 vol. 8vo. 1834-37	(Out of print)
Transactions— Vol. 1, part 1. 148 pp. 4to. 1837	"
Journal (published quarterly)— Vols. 1—58. 8vo. 1838-95	5*s.* each part*
General Analytical Index to Vols. 1—50 of the Journal (1838-87). In 4 parts. 8vo.— (i) For the First Fifteen Volumes (1838-52) (ii) For the Ten Volumes (1853-62) (iii) For the Ten Volumes (1863-72) (iv) For the Fifteen Volumes (1873-87)	3*s.* 6*d.* each part
Subject-Index to the Journal. Vols. xxviii—lvii, 1865-94	1*s.* 6*d.*
First Report of a Committee on Beneficent Institutions. I. The Medical Charities of the Metropolis. 68 pp. 8vo. 1857	2*s.* 6*d.*
Catalogue of the Library— iv + 142 pp. 8vo. 1859	(Out of print)
Statistics of the Farm School System of the Continent (reprinted from the *Journal*, with a Preface and Notes). 63 pp. 8vo. 1878	1*s.*
Catalogue of the Library (New)— iv + 573 pp. Cloth, super royal 8vo. 1884	10*s.*
Index to the Catalogue of 1884— i + 372 pp. Cloth, super royal 8vo. 1886	10*s.*
Jubilee Volume— xv + 372 pp. Cloth, 8vo. 1885	10*s.* 6*d.*
List of Fellows, Rules and Bye-Laws, Regulations of the Library, and Outline of the Objects of the Society, &c. Corrected annually to 31st December. 8vo.	Issued gratuitously

Price of back Numbers of the Journal, &c., to Fellows only.

Fellows only, can obtain sets—or single copies of any number—of the *Journal*, or copies of the other Publications, at the Society's Rooms, 9, Adelphi Terrace, Strand, W.C.

By different resolutions of the Council, the prices charged to Members are as follows:—(a.) back numbers of the *Journal* of the Society, three-fifths of the publishing price; (b.) each part of the General Index to the *Journal*, 2*s.* 6*d.*; (c.) the Jubilee Volume, 5*s.*; (d.) the Subject Index, 1*s.*

NOTE.—One or two numbers of the *Journal* are now out of print.

* Before 1870 the price varied.

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ROYAL STATISTICAL SOCIETY.

Founded 15*th March*, 1834, *Incorporated* 31*st January*, 1887.

LIST OF THE FORMER

Patron and Presidents

OF THE SOCIETY.

Patron.

	Period.
His Royal Highness The Prince Consort, K.G.	1840–61

Presidents.

The Most Noble the Marquis of Lansdowne, F.R.S.	1834–36
Sir Charles Lemon, Bart., M.P., LL.D., F.R.S.	1836–38
The Right Hon. the Earl Fitzwilliam, F.R.S.	1838–40
The Right Hon. the Viscount Sandon, M.P. (afterwards Earl of Harrowby.)	1840–42
The Most Noble the Marquis of Lansdowne, K.G., F.R.S.	1842–43
The Right Hon. the Viscount Ashley, M.P. (afterwards Earl of Shaftesbury.)	1843–45
The Right Hon. the Lord Monteagle	1845–47
The Right Hon. the Earl Fitzwilliam, F.R.S.	1847–49
The Right Hon. the Earl of Harrowby	1849–51
The Right Hon. the Lord Overstone	1851–53
The Right Hon. the Earl Fitzwilliam, K.G., F.R.S.	1853–55
The Right Hon. the Earl of Harrowby, K.G., D.C.L.	1855–57
The Right Hon. the Lord Stanley, M.P. (afterwards Earl of Derby.)	1857–59
The Right Hon. the Lord John Russell, M.P., F.R.S. (afterwards Earl Russell.)	1859–61
The Right Hon. Sir J. S. Pakington, Bart., M.P., G.C.B. (afterwards Lord Hampton.)	1861–63
Colonel W. H. Sykes, M.P., D.C.L.	1863–65
The Right Hon. the Lord Houghton, D.C.L., F.R.S.	1865–67
The Right Hon. W. E. Gladstone, M.P., D.C.L.	1867–69
W. Newmarch, F.R.S., Corr. Mem. Inst. of France	1869–71
William Farr, M.D., C.B., D.C.L., F.R.S.	1871–73
William A. Guy, M.B., F.R.S.	1873–75
James Heywood, M.A., F.R.S., F.G.S.	1875–77
The Right Hon. George Shaw Lefevre, M.P.	1877–79
Thomas Brassey, M.P. (now the Right Hon. Lord Brassey, K.C.B.)	1879–80
The Right Hon. Sir James Caird, K.C.B., F.R.S.	1880–82
Sir Robert Giffen, K.C.B., LL.D., F.R.S.	1882–84
Sir Rawson W. Rawson, K.C.M.G., C.B.	1884–86
The Right Hon. George J. Goschen, M.P., F.R.S.	1886–88
T. Graham Balfour, M.D., F.R.S.	1888–90
Frederic J. Mouat, M.D., LL.D., F.R.C.S.	1890–92
Charles Booth	1892–94

LIST OF FELLOWS.

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*Those marked thus * have compounded for their Annual Subscriptions.*

The names of Members of Council are printed in SMALL CAPITALS.

Year of Election.	
1888	Ackland, Thomas G., F.I.A., *"Avalon," Morland-road, Addiscombe.*
1888	Acland, The Right Hon. Arthur Herbert Dyke, M.A., M.P., 28, *Cheyne-walk, Chelsea, S.W.*
1869	Acland, The Rt. Hon. Sir Thomas Dyke, Bart., F.R.G.S., *Killerton, Exeter.*
1892	Acworth, William M., M.A., 47, *St. George's-square, S.W.*
1879	Adam, Robert (*City Chamberlain*), *City Chambers, Edinburgh.*
1894	Adams, Charles Edward, B.Sc., A.I.A., *Canterbury College, School of Agriculture, Lincoln, N.Z.*
1891	Addington, Right Hon. Lord, 24, *Princes-gate, S.W.*
1890	Adler, Marcus Nathan, M.A., F.I.A., 1, *Bartholomew-lane, E.C., and* 22, *Craven-hill, W.*
1884	Agius, Edward Tancred, 52, *Belsize-park-gardens, N.W.*
1886	Ailesbury, The Most Hon. The Marquess of, 36, *Eaton-place, S.W.*
1876	Aitchison, William John, 2, *Princes-street, E.C.*
1885	Aitken, Thomas, 132, *West Regent-street, Glasgow.*
1879	Akers-Douglas, The Right Hon. Aretas, M.P., J.P., *Chilston Park, Maidstone, Kent.*
1876	Aldwinckle, Thomas Williams, 1, *Victoria-street, S.W.*
1887	Allard, Alphonse, 52, *Avenue Louise, Brussels, Belgium.*
1889	Allen, Frank, J.P., *Guildford-terrace, off Hill-st., Thorndon, Wellington, N.Z.*
1876	Allen, John T. R., 41, *Norfolk-square, Brighton.*

Year of Election.	
1893	Anderson, Herbert William, *Halling, Kent.*
1889	Anderson, John Andrew (Alderman), *Faversham, Kent.*
1886	Andras, Henry Walsingham, F.I.A., 25, *Pall Mall, S.W.*
1890	*Andrews, Henry, 18, *Essex-street, Strand, W.C.*
1871	Angus, R. B., *Montreal, Canada.*
1890	Ann, Alfred E., F.R.G.S., *The Oaks, Snaresbrook, Essex.*
1884	Anning, Edward James, 78, *Cheapside, E.C.*
1895	Arbuthnot, Gerald Archibald, 52, *Eaton-place, S.W., and* 4, *Whitehall-place, S.W.*
1872	*Archibald, William Frederick A., M.A., 4, *Brick-court, Temple, E.C.*
1892	Argyle, Jesse, 74, *Lordship-road, Stoke Newington, N.*
1888	Asch, William, 4, *Albert Mansions,* 118, *Victoria-street, S.W.*
1883	Aschenheim, Gustav, 27, *Mincing-lane, E.C.*
1891	Ashman, Rev. Joseph Williams, M.A., M.D., *National Club,* 1, *Whitehall-gardens, S.W.*
1888	Atkinson, Charles, *Benhilton, St. Saviour's-road, Croydon.*
1893	Atkinson, Frederick J. 11, *Muir-road, Allahabad, India.*
1871	Atkinson, George W., 1, *Regent-street, Barnsley.*
1892	Atkinson, Robert Hope, *Equitable Life Ass. Soc. of United States, Sydney, N.S.W.*
1893	Aves, Ernest, M.A., *Toynbee Hall,* 28, *Commercial-street, E.*
1872	*Babbage, Major-General Henry Prevost, *Mayfield, Lansdown-place, Cheltenham.*
1890	Back, Frederick, *Hobart, Tasmania.*
1872	*Backhouse, Edmund, *Bank, Darlington.*

Year of Election.	
1892	Bacon, George Washington, F.R.G.S., 127, *Strand, W.C.*
1879	Baden-Powell, Sir George, K.C.M.G., M.P., 114, *Eaton-square, S.W.*
1855	Bailey, Arthur Hutcheson, F.I.A., 26, *Mount Ephraim-road, Streatham, S.W.*
1890	Bain, William Whyte, 23, *Castlereagh-street, Sydney, New South Wales.*
1881	BAINES, JERVOISE ATHELSTANE, C.S.I. (*India Office, S.W.*), 23, *Kensington Park-gardens, W.*
1887	Baldwin, Alfred, M.P., J.P., *Wilden House, near Stourport.*
1878	Balfour, The Right Hon. Arthur J., P.C., M.P., LL.D., F.R.S., 4, *Carlton-gardens, S.W.*
1886	Balfour, The Right Hon. Gerald William, M.P., 24, *Addison-road, Kensington, W.*
1884	Barlow, William Henry, F.R.S., C.E., 53, *Victoria-street, Westminster, S.W.*
1887	Barnes, Joseph Howard, F.I.A., 70, *Lombard-street, E.C.*
1889	Barr, Andrew Wallace, 30, *Moorgate-street, E.C.*
1885	Barratt, Thomas J., 75, *New Oxford-street, W.*
1887	*Barrett, Thomas Squire, F.Z.S., M.A.I, F.R. Hist. Soc., *High-street, Berkhampstead.*
1878	Barry, Francis Tress, M.P., *St. Leonard's-hill, Windsor.*
1888	*Bartlett, Frederick W., 82, *Camberwell Grove, S.E.*
1889	Bastable, Professor C. F., M.A., LL.D., 6, *Trevelyan-terrace, Brighton-road, Rathgar, Co. Dublin.*
1873	Bate, George, 258, *Waterloo-road, Burslem, Staffs.*
1877	BATEMAN, ALFRED EDMUND, C.M.G. (*Hon. Secretary*), *Board of Trade, Whitehall-gardens, S.W.*
1888	Batten, John W., 3, *Harcourt Buildings, Temple, E.C.*
1877	Bayfield, Arthur, 95, *Colmore-row, Birmingham.*
1873	*Baynes, Alfred Henry, F.R.G.S., 19, *Furnival-street, Holborn, E.C.*
1871	*Baynes, William Wilberforce, F.I.A., *Pickhurst Wood, Bromley, Kent.*
1875	*Beardsall, Francis E. M., 63, *Brown-street, Manchester.*
1875	*Beaufort, William Morris, F.R.A.S., F.R.G.S., 18, *Piccadilly, W.*
1882	*Beazeley, Michael Wornum, M.A., 194, *Clapham-road, S.W.*

Year of Election.	
1884	Bedford, James, *Woodhouse Cliff, Leeds.*
1889	Beecroft, William Henry, *Guildhall, Westminster, S.W.*
1882	*BEETON, HENRY RAMIE (6*a*, *Austin Friars, E.C.*), 9, *Maresfield-gardens, Hampstead N.W.*
1886	Begg, Ferdinand Faithfull. M.P., *Bartholomew House, E.C.*
1890	Bell, Frederick, F.I.A., 9, *King-street, Cheapside, E.C.*
1892	Bell, Frederick William, *P.O. Box* 916, *Johannesburg, S. Africa.*
1884	Bell, James T., *Northcote, Dowanhill, viâ Glasgow.*
1888	Bellew, Thomas Acheson, 65, *Tower Buildings, Liverpool.*
1888	*Benson, Godfrey R., *Norfolk House, Victoria Embankment, W.C.*
1895	Bentinck, Lord Henry, M.P., 13, *Grosvenor-place, S.W.*
1884	*Bentley, Richard, F.R.G.S., *Upton, Slough, Bucks*
1884	Berg, Wilhelm, 37, *Mincing-lane, E.C.*
1890	Berry, Arthur, M.A., *King's College, Cambridge.*
1891	Berry, Oscar, F.C.A., *Monument-yard, E.C.*
1875	Bevan, Thomas, *Stone Park, near Dartford, Kent.*
1869	*Beverley, The Hon. Mr. Justice Henry, 42, *Chowringhee, Calcutta.*
1879	*Bickford-Smith, William, J.P., D.L., *Trevarno, Helston, Cornwall.*
1891	Biddle, Daniel, M.R.C.S., L.S.A., *Charlton Lodge, Kingston-on-Thames.*
1886	Biggs, Thomas Hesketh, (*Comptroller*), *Rangoon, Burma.*
1888	Billinghurst, Henry F., 41, *Lothbury, E.C.*
1883	Binney, William, 34, *Great St. Helens, E.C.; Hillfield, Hampstead, N.W*
1884	Birch, Robert W. Peregrine, M. Inst. C.E., 5, *Queen Anne's-gate, Westminster, S.W.*
1892	*Birkmyre, William, *Reform Club Chambers, Pall Mall, S.W.*
1881	Bishop, George, 113, *Powis-street, Woolwich.*
1883	Blades, R. H., 23, *Abchurch-lane, E.C.*

Year of Election.	
1884	Boileau, John Peter H., M.D., &c. (*Brigade-Surgeon Lieut.-Col.*) *c/o Messrs. Holt & Co.*, 17, *Whitehall-place, S.W.*
1881	Bolitho, Thomas Robins, *Penalverne, Penzance.*
1887	Bolling, Francis, 2, *Laurence Pountney-hill, E.C.*
1890	Bolton, Edward, *Clifton House, Beverley-road, Hull.*
1880	Bolton, Joseph Cheney, *Carbrook, Larbert, Stirlingshire.*
1885	*Bonar, James, M.A., LL.D., *Civil Service Commission, Westminster, S.W.*
1887	Bond, Edward, M.P., *Elm Bank, Hampstead, N.W.*
1894	Bonnett, Alfred, 31, *Clifton-road, Peckham, S.E., and* 10, *City-road, E.C.*
1885	BOOTH, CHARLES (*Honorary Vice-President*), 2, *Talbot-court, Gracechurch-street, E.C.*
1885	Bordman, Emanuel Linden, *Victoria House, Trinity-street, Southwark, S.E.*
1879	Bordman, Thomas Joseph Clarence Linden, LL.D., *Victoria House, Trinity-street, Southwark, S.E.*
1888	Bottomley, George, *Arbourfield House, Derby.*
1871	BOURNE, STEPHEN, 5, *Lansdowne-road, Lee, S.E.*
1885	Bovell, The Hon. Henry Alleyne, LL.B., *Chelston, Barbados, West Indies.*
1876	Bowen, Horace George, *Bank of England, E.C.*
1894	Bowley, Arthur Lyon, M.A., *St. John's School, Leatherhead.*
1879	Bowley, Edwin, F.I.A., 78, *South Hill Park, Hampstead.*
1886	BOYLE, SIR COURTENAY, K.C.B. (*Vice-President*), *Board of Trade, Whitehall-gardens, S.W.*
1894	Brabrook, Edward William, F.S.A., 28, *Abingdon-street, S.W.*
1883	Braby, Frederick, F.C.S., F.G.S., *Bushey Lodge, Teddington.*
1875	Braby, James, J.P., *Maybanks, Rudgwick, Sussex.*
1888	Bramwell, Sir Frederick J., Bart., D.C.L., F.R.S., 5, *Great George-street, Westminster, S.W.*
1873	BRASSEY, THE RIGHT HON. LORD, K.C.B. (*Honorary Vice-President*), 4, *Great George-street, S.W.; and* 24, *Park-lane, W.*
1864	*Braye, The Right Hon. Lord, *Stanford Hall, Rugby.*

Year of Election.	
1883	Broad, Harrington Evans, 1, *Walbrook, E.C.*
1883	Brooke, C. B., 16, *Leadenhall-street, E.C.*
1874	Broom, Andrew, A.C.A., "*The Chestnuts,*" *Staines, Middlesex.*
1895	Broomhall, George James Short, 84, *Huskisson-street, Liverpool.*
1878	Brown, Alexander Hargreaves, M.P., 12, *Grosvenor-gardens, S.W.*
1893	Brown, James William Bray, F.S.A.A., *Corporation-st., Birmingham, & Moseley, Worcestershire.*
1890	Browne, Edward William, 33, *Poultry, E.C.*
1875	Browne, Thomas Gillespie C., F.I.A., 6, *Princes-street, Bank, E.C.*
1886	*Brunner, Sir John Tomlinson, Bart., M.P., *Druid's Cross, Wavertree, Liverpool.*
1865	Bunce, John Thackray, *Longworth, Priory-road, Edgbaston, Birmingham.*
1880	*Burdett, Henry Charles, *The Lodge, Porchester-square, W.*
1873	*Burdett-Coutts, The Right Hon. the Baroness, 1, *Stratton-street, W.; and Holly Lodge, Highgate, N.*
1884	Burdett-Coutts, William, M.P., 1, *Stratton-street, Piccadilly, W.*
1885	Burridge, Arthur Francis, F.I.A., 18, *Lincoln's Inn Fields, W.C.*
1895	Burrup, John Arthur Evans, *Statistical Department, Custom House, Calcutta.*
1880	Burt, Frederick, F.R.G.S., *Uplands, Stoke Poges, near Slough, Bucks.*
1872	*Burton, The Right Hon. Lord, (*Chesterfield House, Mayfair, W.*); *Rangemore, Burton-on-Trent.*
1886	Bush, Baron William de, F.C.S., 3, *Palace-gate, W.*
1893	*Bushill, Thomas William, *Brantwood, Coventry.*
1891	Butler, Arthur J., *Dale Close, Mansfield, Notts.*
1892	Byworth, Charles Joseph, J.P., F.S.A.A., *Town Clerk, Cape Town, South Africa.*

Year of Election.	
1877	Campbell, George Lamb, *Market-street, Wigan.*
1879	Campbell-Colquhoun, Rev. John Erskine, *Chartwell, Westerham, Kent.*
1889	Cannan, Edwin, M.A., 24, *St. Giles', Oxford.*
1891	Cannon, Henry W. (*Chase National Bank*), 15, *Nassau-street, New York, U.S.A.*
1888	Carbutt, Sir Edward H., Bart., M. Inst. M.E., M. Inst. C.E., 19, *Hyde Park-gardens, W.*
1881	Carden, Lionel Edward Gresley, *H.M. Consul, Mexico.*
1872	*Carillon, J. Wilson, F.S.A., F.R.G.S., *The Chimes, Richmond, Surrey.*
1885	Carmichael, Sir Thomas D. Gibson, Bart., M.P., *Castlecraig, Dolphinton, N.B.*
1893	*Carpenter, Henry Saunders, *Beckington House, Weighton-road, Anerley, S.E.*
1888	Carr, Ebenezer, 24, *Coleman-street, Bank, E.C.*
1893	Carr, William Robert Taylor, *Monument House, Monument-square, E.C.*
1888	Carruthers-Wain, William J., *Finsbury Circus Buildings*, 18, *Eldon-street, E.C.*
1890	*Carter, Eric Mackay, A.I.A., F.C.A., 33, *Waterloo-street, Birmingham.*
1883	*Carter, Joseph Robert, 67, *Cromwell-avenue, Highgate, N.*
1878	*Casley, Reginald Kennedy, M.D., *Ipswich.*
1885	Casson, William A., 12, *Romola-road, Herne Hill, S.E.*
1881	Causton, Richard Knight, M.P., 12, *Devonshire-place. Portland-place, W.*
1869	**Chadwick, John Oldfield**, F.R.G.S., 95, *Finsbury-pavement, E.C.*
1884	*Chailley-Bert, Joseph, 12, *Avenue Carnot, Paris.*
1888	Challis, William H., *Enfield, Middlesex.*
1880	*Chamberlain, The Right Honourable Joseph, M.P., F.R.S. 40, *Prince's-gardens, S.W.*
1886	Chamberlain, Richard, 39, *Cadogan-square, S.W.*
1886	Chapman, Samuel, F.I.Inst., *c/o Inter-Oceanic Railway, Mexico City* (*viâ New York*).
1892	*Chatham, James, F.I.A., F.F.A., *Inverleith Park House, Edinburgh.*

Year of Election.	
1851	*Cheshire, Edward, 3, *Vanbrugh Park*, *Blackheath*, *S.E.*
1853	Chisholm, David, F.I.A., F.S.A., 9, *Rillbank-terrace*, *Edinburgh*
1886	*Chisholm, George Goudie, M.A., B.Sc., F.R.G.S., 26, *Dornton-road*, *Balham*, *S.W.*
1849	Clark, Gordon Wyatt, 10, *James-street*, *Buckingham-gate*, *S.W.*
1886	Clark, Henry James (*Government Statist of Trinidad*). *Port of Spain*, *Trinidad.*
1895	Clarke, Bernard,
1868	Clarke, C. Goddard, J.P., *Ingleside*, *Elm Grove*, *Peckham*, *S.E.*
1871	Clarke, Ebenezer, *Grove-road-villas*, *Walthamstow.*
1882	*Clarke, Ernest, M.A., F.L.S., F.S.A., 13*a*, *Hanover-square*, *W.*
1877	*Clarke, Henry, L.R.C.P., *H.M. Prison*, *Wakefield*, *Yorks.*
1890	Clarke, Henry, *Cannon Hall*, *Hampstead*, *N.W.*
1869	Cleghorn, John, 3, *Spring-gardens*, *S.W.*
1853	Clirehugh, William Palin, F.I.A., 66, *Cornhill*, *E.C.*
1888	Clough, Walter Owen, M.P., 89, *Gresham-street*, *E.C.*, *and The Ridgway*, *Enfield.*
1889	Coate, James, *Lea Coombe House*, *Axminster.*
1873	Cockle, Captain George, F.R.G.S., 9, *Bolton-gardens*, *South Kensington*, *S.W.*
1894	Cockram, George Edward, 15, *Addison-road*, *W.*, *and Cowleymoor*, *Tiverton*, *Devon.*
1884	Cockshott, John James, 24, *Queen's-road*, *Southport.*
1887	Cohen, Nathaniel Louis, 31, *Throgmorton-street*, *E.C.*
1888	Coleman, Harry, 34, *Golden-square*, *W*
1859	Coles, John, F.I.A., 39, *Throgmorton-street*, *E.C.*
1892	*Collet, Miss Clara Elizabeth, M.A., 7, *Coleridge-road*, *Finsbury Park*, *N.*
1887	Collet, Sir Mark Wilks, Bart., 2, *Sussex-square*, *W.*, *and St. Clere*, *Sevenoaks*, *Kent.*
1895	Collins, Howard James, *The General Hospital*, *Birmingham.*
1882	*Collum, Rev. Hugh Robert, M.R.I.A., F.R.C.I., *Leigh*, *near Tunbridge*, *Kent.*

Year of Election.	
1867	Colman, Jeremiah James, *Carrow House, Norwich.*
1878	Colomb, Captain Sir John C. R., K.C.M.G., M.P., *Droumquinna, Kenmare, Kerry, & 75, Belgrave-rd., S.W.*
1889	Compton, The Right Hon. Earl, M.P., 51, *Lennox-gardens, S.W.*
1891	Cooper, Joseph, 60, *Park-street, Farnworth, near Bolton.*
1874	Corbett, John, 20, *Hertford-street, Mayfair, W.*
1883	Corgialegno, M., *George-yard, Lombard-street, E.C.*
1873	Cork, Nathaniel, F.R.G.S., 18, *Birchin-lane, E.C.*
1889	Cornwallis, Fiennes Stanley Wykeham, *Linton-park, Maidstone, Kent.*
1895	Costello, James Edward, 3, *Throgmorton-avenue, E.C.*
1880	Cotterell-Tupp, Alfred, 17, *Devonshire-terrace, Hyde Park, W.*
1862	Courtney, The Right Hon. Leonard Henry, M.A., M.P., 15, *Cheyne Walk, Chelsea, S.W.*
1888	Craggs, John George, C.A., *Stone House, St. John's, S.E.*
1874	**CRAIGIE, MAJOR PATRICK GEORGE** (*Hon. Secretary*), 6, *Lyndhurst-rd., Hampstead, & 4, Whitehall-place, S.W.*
1870	Craik, George Lillie, 29, *Bedford-street, Strand, W.C.*
1890	Crawford, Richard Frederick, 4, *Whitehall-place, S.W.*
1891	*Crawley, Charles Edward (*Controller General*), *Hyderabad, Deccan, India.*
1894	Crease, Major-General John Frederick, C.B., *United Service Club, Pall-mall, S.W.*
1878	Crewdson, Ernest, *Platt Abbey, Rusholme, Manchester.*
1892	Cripps, Charles Alfred, Q.C., M.P., 32, *Elm Park-gardens, S.W.*
1886	Crispin, Edward, 33, *St. George's-avenue, N.*
1890	Croal, David Octavius, 15, *York-buildings, Adelphi, W.C.*
1875	Cunningham, David, C.E., *Works' Office, Harbour-chambers, Dundee.*
1883	Cunningham, Rev. William, M.A., D.D., 2, *St. Paul's-road, Cambridge.*
1879	Curtis, Robert Leabon, F.S.I., J.P., 120, *London Wall, E.C.*
1873	Czarnikow, Cæsar, *Effingham-hill, Dorking, Surrey.*

Year of Election.	
1886	Dale, Sir David, Bart., *West Lodge, Darlington.*
1888	Dangerfield, Athelstan, A.C.A., 17, *Basinghall-street, E.C.*
1880	**DANVERS, FREDERICK CHARLES,** *India Office, Westminster, S.W.*
1873	Danvers, Sir Juland, K.C.S.I., 103, *Lexham-gardens, Kensington, W.*
1892	Dash, William Lawson, J.P., 301, *Pitt-street, Sydney, N.S.W.*
1890	Davey, Robert Williams, B.A.,
1893	Davidson, Captain J. H. D., 31, *Grenfell-street, Adelaide, S. Australia.*
1869	Davies, James Mair, 168, *St. Vincent-street, Glasgow.*
1874	Davies, William Henry, 51, *Tregunter-road, West Brompton, S.W.*
1893	Davis, Harrison, 75, *Cheapside, E.C.*
1890	Dawson, A. L. Halkett, M.A., F.R.G.S., *Molesworth Chambers, Melbourne Victoria.*
1888	Dawson, G. J. Crosbie, M. Inst. C.E., F.G.S. *North Staffordshire Railway, Stoke-upon-Trent.*
1880	Debenham, Frank, 1, *Fitzjohn's-avenue, Hampstead, N.W.*
1885	De Broë, Emile Conrad De Bichin, *c/o Messrs. Williams, Meyers, & Co., Warnford-court, E.C.*
1879	*De Ferrieres, The Baron Du Bois, J.P., *Bay's-hill House, Cheltenham.*
1883	*De Keyser, Sir Polydore (Alderman), 4, *Cornwall Mansions, Cornwall Gardens, S.W.*
1877	Deloitte, William Welch, 4, *Lothbury, E.C.*
1891	Denne, William, *Statistical Department, Custom House, E.C.*
1873	Dent, Edward, *Fernacres, Fulmer, near Slough, Bucks.*
1887	Dent, George Middlewood, 13, *Chambres-road, Southport.*
1889	De Rothschild, Leopold, J.P., D.L. (Alderman), 5, *Hamilton-place, Piccadilly, W.*
1892	De Smidt, Henry (*Permanent Under-Secretary*), *Cape Town, Cape Colony.*

Year of Election.	
1877	Dever, Henry, 4, *Lothbury, E.C.*
1892	Dewar, William Nimmo, 163, *Queen-street, Melbourne, Victoria.*
1889	De Woolfson, Louis Estevan Green, *St. John's-hill, Shrewsbury.*
1890	Dickinson, Willoughby Hyett, 19, *Campden-hill-road, W.*
1866	*Dilke, The Right Hon. Sir C. Wentworth, Bart., M.P., LL.M., 76, *Sloane-street, S.W.*
1873	Dixon, George, M.P., *The Dales, Edgbaston, Birmingham.*
1889	Double, Alfred, 25, *Jewin-crescent, Cripplegate, E.C.*
1889	Doubleday, William Bennett, 123, *Tulse-hill, S.W.*
1889	Douglas, J., *E.I. Railway House, Dalhousie Square, Calcutta.*
1875	Doxsey, Rev. Isaac, 186, *The Grove, Camberwell, S.E.*
1878	Doyle, Patrick, C. E., F.G.S., M.R.A.S., *Calcutta.*
1894	**Drage, Geoffrey**, M.A., M.P., *Hatfield, Herts.*
1894	Drake, Francis C., B.A. (161, *Buckingham Palace Road, S.W.*) *Financial Department, India Office, S.W.*
1894	Drew, William Francis, F.R.Hist.S., *Weybridge Heath, Surrey.*
1890	Drummond, Charles James, 21, *Dalmore-road, West Dulwich, S.E.*
1895	Dudley, The Right Hon the Earl of, *Board of Trade, Whitehall Gardens, S.W.*
1875	Dun, John, *Parr's and Alliance Bank, Bartholomew-lane, E.C*
1886	Dundonald, The Right Hon. the Earl of, 34, *Portman-square W.*
1878	*Dunraven, The Right Hon. The Earl of, K.P., *Kenry House, Putney Vale, S.W.*
1885	Dyer, William John, 17, *Montpelier-row, Blackheath, S.E.*

1888	Earnshaw, Jacob, 36, *South King-street, Manchester.*
1887	Ebbsmith, Joseph, 86, *St. James's-streeet, S.W.*

Year of Election.	
1888	Eckersley, J. C., M.A., F.R.G.S., *Ashfield, Wigan.*
1883	Edgeworth, Professor Francis Ysidro, M.A., D.C.L., 5, *Mount Vernon, Hampstead, and All Soul's, Oxford.*
1869	Edmonds, William, *Annesley House, Southsea.*
1880	Egerton of Tatton, The Right Honourable Lord, 7, *St. James's-square, S.W.*
1885	Elliot, William Henry, 122, *Mansion House-chambers, Queen Victoria-street, E.C.*
1885	ELLIOTT, THOMAS HENRY, *Board of Agriculture*, 4, *Whitehall Place, S W.*
1885	Elliott, William, 22, *St. George's-street, Cape Town.*
1895	Elliott, William, junr., *P.O. Box* 1,583, *Johannesburg, S. Africa.*
1895	Elwell, William Henry, 38, *Parliament-street, S.W.*
1889	Erhardt, William, 7, *Bury-street, Bloomsbury, W.C.*
1882	Essex, Benjamin Smily, 17, *Pall Mall East, S.W.*
1879	Evans, Henry Jones, J.P., *Greenhill, Whitchurch, Cardiff.*
1892	Faber, Harald, *Fiona, Lennard-road, Penge, S.E.*
1875	Faraday, Frederick J., 17, *Brazennose-street, Manchester.*
1888	Farlow, A. R. King, 4, *King-street, Cheapside, E.C.*
1889	Farnworth, Edward James, 20, *Cannon-street, Preston.*
1878	Farren George, J.P., M.Inst.C.E., *Carnarvon.*
1878	FARRER, THE RIGHT HON. LORD (*President*), *Abinger Hall, Dorking.*
1890	Faulks, Joseph Ernest, B.A., F.I.A., 187, *Fleet-street, E.C.*
1893	*Fawcett, Mrs. Millicent Garrett, 2, *Gower-street, W.C.*

Year of Election.	
1882	Fell, Arthur, M.A., 46, *Queen Victoria-street*, *E.C.*
1864	Fellows, Frank Perks, 8, *The Green*, *Hampstead*, *N.W.*
1894	Fellows, Rowland Hill, 20, *Dynham-road*, *West Hampstead*, *N.W.*
1898	Fenwick, John Fenwick, *Spencer House*, *Wimbledon Common.*
1894	Field, John William (*Gas Light and Coke Company*), *Horseferry-road*, *Westminster*, *S W.*
1880	Finlaison, Alexander John, C.B., F.I.A., 19, *Old Jewry*, *E.C.*
1889	*Finlay, Major Alexander, *The Manor House*, *Little Brickhill*, *Bletchley*, *Bucks.*
1884	*Finnemore, Robert Isaac, J.P., F.R.G.S. (*Crown Solicitor*), *Pietermaritzburg*, *Natal*, *South Africa.*
1892	Fisher, George, J.P., M.H.R. (*Chevalier of the Order of Crown of Italy*), *Hill-street*, *Wellington*, *N.Z.*
1888	Fisher, Walter Newton, F.C.A., 4, *Waterloo-street*, *Birmingham.*
1885	*Fitz-Gerald, Lt.-Col. Wm. G., M.A., F.R. Hist. S., F.R.S.L., *Conneragh*, *Youghal*, *Ireland.*
1893	*Flux, Alfred William, M.A. (*Owen's College*, *Manchester*), 10, *Amherst-street*, *Fallowfield*, *Manchester.*
1882	Foley, Patrick James, *Pearl Ins. Co.*, *Adelaide-place*, *London Bridge*, *E.C.*
1889	Foot, Alfred, *Liskeard*, 15, *Epsom-road*, *Croydon.*
1841	Fortescue, The Right Honourable Earl, *Castle Hill*, *South Molton*, *Devon.*
1893	Fortune, David, J.P., 104, *Peel-terrace*, *Garnethill*, *Glasgow.*
1888	Forwood, Sir William B., J.P., *Blundell Sands*, *Liverpool.*
1884	Fosbery, William Thomas Exham, *The Castle-park*, *Warwick.*
1868	Fowler, William, 43, *Grosvenor-square*, *W.*
1890	Fox, Charles Allen, M.R.C.S., M.R.A.S., M.S.A., *Martock*, *Somerset.*
1893	Fox, Stephen Newcome, 12, *Cromwell-crescent*, *South Kensington*, *S.W.*
1878	Foxwell, Professor H. Somerton, M.A., *St. John's College*, *Cambridge.*
1894	Francis, Joseph, 10, *Finsbury-square*, *E.C.*
1887	Frankland, Frederick William, F.I.A. *New York Life Office*, 346, *Broadway*, *New York.*
1893	Franklin, Ernest L., 60, *Old Broad-street*, *E.C.*

Year of Election.

1886 Fream, Professor William, B.Sc., Lond., LL.D., F.L.S., F.G.S.,
The Vinery, Downton, Salisbury.
1887 Freeman, T. Kyffin, F.G.S.,
35, *Whitehall-park, N.*
1890 Freestone, John,
West Bridgford, Nottingham.
1895 Fulford, Henry C.,
69, *Cadogan Gardens, S.W.*
1886 Fuller, George Pargiter,
Neston-park, Corsham, Wilts.
1878 Fuller, William Palmer,
Portland House, Basinghall-street, E.C.

1879 Gairdner, Charles,
Broom, Newton Mearns, Renfrewshire.
1852 Galsworthy, Sir Edwin Henry, J.P.,
26, *Sussex-place, Regent's-park, N.W.*
1873 *Galton, Capt. Sir Douglas, K.C.B., D.C.L., LL.D., F.R.S.,
12, *Chester-street, Grosvenor-place, S.W.*
1860 Galton, Francis, F.R.S., F.R.G.S.,
42, *Rutland-gate, S.W.*
1887 Garcke, Emile,
1 *and* 2, *Great Winchester-street, E.C.*
1889 Garland, Nicholas Surrey,
Finance Department, Ottawa, Canada.
1881 **GARNETT, FREDERICK BROOKSBANK**, C.B.,
4, *Argyll-road, Kensington, W.*
1895 Garvan, John Joseph,
Citizen's Life Assurce. Co., Sydney, New South Wales.
1879 *Gassiot, John Peter, J.P.,
The Culvers, Carshalton, Surrey,
1883 Gates, Jacob S.,

1880 *Gates, John Benjamin, A.C.A.,
47, *Warwick-street, Regent-street, W.*
1881 *Gatty, William Henry,
Market Harborough, Leicestershire.
1885 Gibb, George S.,
North-Eastern Railway Company, York.
1871 Gibbs, George Sleight,
45, *Northgate, Darlington.*
1889 Gibson, George Rutledge,
55, *Broadway, New York City, U.S.A.*

Year of Election	
1867	*GIFFEN, SIR ROBERT, K.C.B., LL.D., F.R.S. (*Honarary Vice-President*), 44, *Pembroke-road, Kensington, W.*
1877	Gilbert, William H. Sainsbury, 62, *Old Broad-street, E.C.*
1878	*Glanville, Silvanus Goring, 39, *Vicar's-hill, Lewisham, S.E.*
1860	GLOVER, JOHN, J.P., 88, *Bishopsgate-street Within, E C.*
1888	Goad, Charles E., M. Am. Soc. C.E., M. Can. Soc. C.E., 53, *New Broad-street, E.C., and Montreal, Canada.*
1884	*Gonner, Professor Edward C.K., M.A., *University College, Liverpool.*
1886	Goodrich, Harry St. Aubyn, 5, *Herbert-crescent, Hans-place, S.W.*
1885	Goodsall, David Henry, F.R.C.S., 17, *Devonshire-place, W.*
1892	Goodwin, Alfred, M.A., 2, *Charles-road, St. Leonards, Sussex.*
1868	GOSCHEN, THE RIGHT HON. GEORGE JOACHIM, M.P., (*Honorary Vice-President*), 69, *Portland-place, W., and Seacox-heath, Hawkhurst.*
1855	*Gosset, John Jackson, *Thames Ditton, Surrey.*
1885	Goulding, William Purdham, F.S.I., 41, *Moorgate-street, E.C.; and* 18, *Mercers-road, N.*
1887	Gover, Frederic Field, 10, *Lee Park, Blackheath, S.E.*
1895	Green, John Little, "*Langholm,*" *Embleton-road, Lewisham, S.E.*
1888	Green, Joseph Shaw, 18, *King Street, Warrington.*
1895	Gretton, John, junr., M.P., *Burton-on-Trent.*
1887	Gribble, George J., *Henlam Grange, Biggleswade.*
1883	Griffin, Josiah, *Vanbrugh Park, Blackheath, S.E.*
1868	Griffith, Edward Clifton, *Reliance Office*, 71, *King William-street, E.C.*
1883	Grimshaw, Thomas Wrigley, M.D., M.A., (*Registrar-General of Ireland*), *Priorsland, Carrickmines, Co. Dublin.*
1889	Grosvenor, George, *Holywell, Streatham-common, S.W.*
1888	Grosvenor, The Hon. Norman de l'Aigle, 30, *Upper Grosvenor-st., W.; Moor-park, Rickmansworth.*
1878	Guthrie, Charles, F.C.A., *London Chartered Bank of Australia, Melbourne, Victoria.*

Year of Election.

1885 Guthrie, Edwin,
Victoria Park, Manchester.

1887 Guyot, Yves (*Deputé*),
95, *Rue de Seine, Paris.*

1880 *Gwynne, James Eglinton A., J.P., F.S.A.,
97, *Harley-st., W.; Folkington Manor, Polegate, Sussex*

1887 Gwyther, John Howard,
34, *Belsize-park-gardens, N.W.*

1892 Hadfield, Robert A.
Fairfield, Sheffield.

1873 *Haggard, Frederick T.,
1, *Broadwater Down, Tunbridge Wells.*

1887 Haldeman, Donald Carmichael,
Claremont, Gypsy Hill, S.E.

1883 Hall, Sir John, K.C.M.G.,
Hororata, Canterbury, New Zealand.

1890 Hall, Joseph Castle,
2, *Basinghall-street, E.C.*

1878 Hallett, Thomas George Palmer, M.A.,
Claverton Lodge, Bath.

1887 Hamilton, Sir Edward W., K.C.B.,
The Treasury, Whitehall, S.W.

1873 HAMILTON, THE RIGHT HON. LORD GEORGE FRANCIS, M.P.,
17, *Montagu-street, Portman-square, W.*

1883 Hamilton, James Thomas,
22, *High-street, Southampton.*

1879 HAMILTON, ROWLAND,
Oriental Club, Hanover-square, W.

1884 *Hammersley, Hugh Greenwood,
14, *Chester-square, S.W.*

1885 *Hancock, Charles, M.A.,
2 *Cloisters, Temple, E.C.; and Reform Club, S.W.*

1875 Hankey, Ernest Alers,
91, *St. Ermin's Mansions, Victoria-street, S.W.*

1876 Hansard, Luke,
68, *Lombard-street, E.C.*

1871 *Harcourt, Right Hon. Sir William Vernon, Q.C., M.P., F.R.S.,
Reform Club, S.W.

1886 *Hardcastle, Basil William,
12, *Gainsborough Gardens, Hampstead, N.W.*

Year of Election.	
1886	Hardcastle, E. J., *Oriental Club, Hanover-square, W.*
1883	Harding, G. P., *La Chaumière, Trouville S./M. France.*
1884	Hardy, George Francis, F.I.A., 12, *Waterloo-place, S.W.*
1893	Harrap, Thomas, 143, *Stamford-street, Ashton-under-Lyne, Lancs.*
1891	Harris, Arthur Wellesley, M.R.C.S., L.S.A., D.P.H., *High-street, Southampton.*
1868	Harris, David, *Caroline Park, Granton, Edinburgh.*
1887	Harris, William A., F.I. Inst., F.R.S.S.A., *Phœnix Chambers, Exchange, Liverpool.*
1882	Harris, William James, *Halwill Manor, Beaworthy, N. Devon.*
1889	Harrold, Major Arthur Lucas, *Adelaide, South Australia.*
1887	Harrold, Leonard F., F.R.G.S., 29, *Great St. Helens, E.C.*
1881	Harvey, Alfred Spalding, B.A., 67, *Lombard-street, E.C.*
1884	Harvey, Thomas Morgan, *Portland House, Basinghall-street, E.C.*
1876	Hawkins, Alfred Templeton, F.R.G.S., 30, *Budge-row, Cannon-street, E.C.*
1895	Haynes, Thomas Henry, 44, *Parliament Hill Road, Hampstead, N.W.*
1887	*Heap, Ralph, jun., 1, *Brick-court, Temple, E.C.*
1884	Hedley, Robert Wilkin, 31*a*, *Colmore-row, Birmingham.*
1870	Hefford, George V., *Rugby.*
1883	Heilgers, Robert Philip, 24, *St. James's-square, S.W.*
1889	*Hemming, Arthur George, F.I.A., *St. Michael's Cottage, The Common, Weybridge.*
1865	Hendriks, Augustus, F.I.A., 7, *Cornhill, E.C.*
1855	*Hendriks, Frederick, F.I.A., 7, *Vicarage-gate, W., and* 1, *King William-street, E.C.*
1888	Heriot, George, 1, *Whittington House, Leadenhall-street, E.C.*
1881	Hewat, Archibald, F.I.A., F.F.A., 22, *George-street, Edinburgh.*
1890	Hewins, W. A. S., B.A., 26, *Leckford-road, Oxford.*
1895	Hewitt-Fletcher, Stanley, A.C.A., *Administration House, Zomba, British Central Africa.*

Year of Election.

1834 *HEYWOOD, JAMES, M.A., F.R.S., F.G.S.
(*Honorary Vice-President and Trustee*),
26, *Palace-gardens, Kensington, W.; Athenæum Club, S.W.*

1886 Hibbert, H. F.,
8, *Park-road, Chorley, Lancashire.*

1869 Hickson, Sir Joseph, J.P. (*General Manager Grand Trunk Ry.*),
Grand Trunk Railway, Montreal, Canada.

1892 *Higgs, Henry, LL.B.,
12, *Lyndhurst-gardens, Hampstead, N.W.*

1878 *Hill, Frederick Morley,
22, *Richmond-road, Barnsbury, N.*

1878 Hillingdon, The Right Hon. Lord,
Camelford House, Park-lane, W.

1890 Hinde, Frederick,
Darley Dale, Kent House-road, Beckenham.

1879 Hoare, H. N. Hamilton,
37, *Fleet-street, E.C.*

1870 *Hoare, Henry,
7, *Sussex-gardens, Hyde-park, W.*

1895 Hoffman, Frederick L.,
Prudential Ins. Co. of America, Newark, N.J., U.S A.

1889 Hogg, Quintin (Alderman),
5, *Cavendish-square, W.*

1888 Hollams, John,
52, *Eaton-square, S.W*

1895 Holland, Hon. Lionel Raleigh, M.P.,
Queen Anne's Mansions, Westminster, S.W.

1894 Hollerith, Herman, Ph.D., &c.,
1521, 31*st-street, N.W., Washington, D.C., U.S.A.*

1888 Hollington, Alfred J.,
Aldgate, E.

1894 Home, Noel Charles Minchin, LL.B., A.I.A.,
14, *Park Parade, Cambridge.*

1891 Hooker, Sir Joseph Dalton, K.C.S.I., F.R.S., &c.,
The Camp, Sunningdale.

1895 *Hooker, Reginald Hawthorn, M.A.,
3, *Gray's Inn Place, W.C.*

1879 Hooper, George Norgate,
Elmleigh, Hayne-road, Beckenham, Kent.

1878 Hooper, Wynnard,
13, *Sumner-place, Onslow-square, S.W.*

1887 Hopkins, John,
Little Boundes, Southborough, Kent.

1894 Houldsworth, Sir William H., Bart, M.P.,
35, *Grosvenor-place, S.W.*

1890 Howarth, William, F.R. Hist. S.,
10, *Clifford's Inn, E.C.*

1883 Howell, Francis Buller,
2, *Middle Temple-lane, E.C.*

Year of Election.	
1883	Howell, George, *Hampden House, Ellingham-road, Shepherd's Bush, W.*
1864	Hudson, Thomas, 31, *Bonham-road, Brixton-hill, S.W.*
1895	Huelin, James Wilson, *c/o Shierlaw, Bros., Hay-street, Perth, W. Australia.*
1894	Hughes, Arthur John, C.I.E., M.I.C.E., *Bhagulpur, Bengal, India.*
1878	Hughes, John, 16, *Finsbury-circus, E.C.*
1874	HUMPHREYS, NOEL ALGERNON, *General Register Office, Somerset House, Strand, W.C.*
1893	Humphreys-Owen, Arthur Charles, M.P., *Glansevern, Garthmyl, Montgomeryshire.*
1883	Hunt, Richard Aldington, A.I.A., *Moor-street, Birmingham.*
1888	Hunter, George Burton, *Wallsend-on-Tyne.*
1885	Hunter, William Alfred, LL.D., M.P., 2, *Brick-court, Temple, E.C.*
1890	Huth, Ferdinand M., 12, *Tokenhouse-yard, E.C.*
1888	Hyde, Clarendon G., 4, *Pump-court, Temple, E.C.*
1887	Hyde, Henry Barry, 5, *Eaton-rise, Ealing, W.*
1893	Hyde, John, 1502, *Kenesaw-avenue, N.W., Washington, D.C., U.S.A.*
1874	*Ingall, William Thomas Fitzherbert Mackenzie. “*Roborough,*” *Deepdene-road, Streatham, S.W.*
1869	*Inglis, Cornelius, M.D., *Athenæum Club, S.W.*
1888	*Ionides, Alexander A., 1, *Holland Park, W.*
1887	Irvine, Somerset William D'Arcy, J.P., *Equitable Life Office of United States, Brisbane.*
1864	*Ivey, George Pearse, 39, *Denmark-villas, West Brighton.*

Year of Election.	
1880	*Jackson, The Right Hon. William Lawies, M.P., *Chapelallerton, Leeds.*
1894	Jamieson, George (*Assist. Judge, Registrar, and Consul*), *H.B.M. Consulate, Shanghai, China.*
1879	Jamieson, George Auldjo, 37, *Drumsheugh-gardens, Edinburgh.*
1872	JANSON, FREDERICK HALSEY, F.L.S., 41, *Finsbury-circus, E.C.*
1878	Jeans, J. Stephen, 29, *Great George-street, S.W.*
1881	*Jersey, The Right Hon. the Earl of, P.C., *Osterley-park, Isleworth.*
1892	Johnson, Charles Henry, B.A., *Kelso House, Hale-end-road, Walthamstow.*
1881	Johnson, Edwin Eltham, 110, *Cannon-street, E.C.*
1891	Johnson, George, 2, *The Avenue, Durham.*
1888	Johnson, John Grove, 23, *Cross-street, Finsbury, E.C.*
1880	Johnson, Walter, *Rounton Grange, Northallerton.*
1878	Johnstone, Edward, *Nightingale-lane, Clapham-common, S.W.*
1884	*Jones, Edwin, J. P., 141, *Cannon-street, E.C.*
1878	Jones, Henry R. Bence, B.A., *Board of Trade, Whitehall-gardens, S.W.*
1874	Jones, Herbert, 15, *Montpelier-row, Blackheath, S.E.*
1894	Jones, Hugh Richard, M.A., M.D., 58*a*, *Grove-street, Liverpool.*
1888	Jones, J. Mortimer, 153, *Highbury New-park, N.*
1887	Jones, John Walter, 58, *Cheapside, E.C.*
1877	Jones, Theodore Brooke, 70, *Gracechurch-street, E.C.*
1888	*Jordan, William Leighton, 25, *Jermyn-street, S.W.*
1858	Jourdan, Francis, *Trood House, Exminster, Devon.*
1890	Joyner, Robert Batson, *Poona, India.*
1889	Justican, Edwin, F.I.A., *St. Mildred's House, Poultry, E.C.*

Year of Election.

1895 Kamensky, Gabriel de,
21, *Blomfield-road, Maida-hill, W.*
1895 Karpeles, Benno, LL.D.,
46, *Primrose Hill-road, N.W.*
1873 Kay, Duncan James,
Drumpark, Dumfries, N.B.
1885 Keen, William Brock,
3, *Church-court, Old Jewry, E.C.*
1894 Keene, Captain Christopher Theodore Pacey,
11, *Queen's-gate, S.W.*
1874 Kelly, Charles, M.D., F.R.C.P.,
Worthing, Sussex.
1884 Kelly, Edward Festus,
182—184, *High Holborn, W.C.*
1867 Kelly, Edward Robert, A.M.,
182—184, *High Holborn, W.C.*
1883 Keltie, John Scott, F.R.G.S.,
Glendevon House, Compayne-gardens, West Hampstead.
1884 Kemp, John,
46, *Cannon-street, E.C.*
1884 *Kennedy, Sir Charles Malcolm, K.C.M.G., C.B.,
4, *Louisa-terrace, Exmouth, South Devon.*
1886 Kennedy, John Gordon,
Foreign Office, S.W.
1878 Kennedy, J. Murray,
New University Club, St. James's-street, S.W.
1881 *Kennett-Barrington, Sir V. Hunter, M.A., LL.M.
65, *Albert Hall Mansions, S.W.*
1895 Kenyon, James, M.P.,
Walshaw Hall, Bury, Lancashire.
1883 *Keynes, John Neville, M.A., D.Sc.
6, *Harvey-road, Cambridge.*
1884 Kimber, Henry, M.P.,
79, *Lombard-street, E.C.*
1852 Kimberley, The Right Honourable the Earl of, M.A., P.C.,
35, *Lowndes-square, S.W.*
1883 *King, Bolton, B.A.,
Toynbee Hall, 28, *Commercial-street, E.*
1884 Kirby, Horace Woodburn, F.C.A.,
19, *Birchin-lane, E.C.*
1894 Kirkcaldy, William Melville,
Eglinton, Dunedin, Otago, New Zealand.
1888 *Kitson, Sir James, Bart., M.P., J.P.,
Gledhow Hall, Leeds.

Year of Election.	
1889	Kloetgen, W. J. H., 34, *Gutter-lane, Cheapside, E.C.*
1878	*Kusaka, Yoshio, *First National Bank, Tokio, Japan.*
1885	Latham, Baldwin, M. Inst. C.E., *Duppas House, Old Town, Croydon.*
1892	Latham, Stanley A., A.C.A., 2, *Hare-court, Temple, E.C.*
1874	Lawes, Sir John Bennett, Bart., LL.D., F.R.S., F.C.S., *Rothamsted-park, St. Albans.*
1891	Lawrence, James, 16, *St. Helen's-place, E.C.*
1890	Lawson, William Ramage, 57, *Fitzjohn's-avenue, Hampstead, N.W.*
1883	*Leadam, Isaac Saunders, M.A., 1, *The Cloisters, Temple, E.C., and Reform Club, S.W.*
1890	Leakey, James, 12, *Grove-crescent, Woodford, Essex.*
1886	Leathes, Stanley M., *Trinity College, Cambridge.*
1883	Lee, Henry, *Reform Club, S.W.*
1879	*Leete, Joseph, 36, *St. Mary-at-hill, E.C., & Eversden, S. Norwood-park.*
1877	LEFEVRE, THE RIGHT HON. GEORGE SHAW, M.P., M.A., J.P. (*Honorary Vice-President*), 18, *Bryanston-square, W.*
1877	*Leggatt, Daniel, LL.D., 5, *Raymond-buildings, Gray's-inn, W.C.*
1880	Leighton, Stanley, M.P., *Sweeney Hall, Oswestry, Salop.*
1887	Leitch, Alexander, 17, *King William-street, E.C.*
1895	Leman, Ernest Montague, *Palace Chambers, Westminster, S.W.*
1892	Leon, Herbert Samuel, *Bletchley Park, Bletchley, Bucks.*
1888	*Le Poer-Trench, Col. The Hon. W., R.E., J.P., 3, *Hyde Park-gardens, W.*
1887	*Le Roy-Lewis, Herman, B.A., *Westbury House, Petersfield, Hants.*
1889	Lescher, Herman, 6, *Clement's-lane, Lombard-street, E.C.*

Year of Election.
1862 Lewis, Robert,
1, Bartholomew-lane, E.C.
1888 *Liberty, A. Lasenby,
The Manor House, The Lee, near Gt. Missenden, Bucks.
1877 Ligertwood, Thomas, M.D., F.R.C.S.,
Royal Hospital, Chelsea, S.W.
1884 *Lines, William Edward,
c/o R. S. Lines, Noel House, Hertford.
1892 Llewelyn, Sir John T. D., Bart., M.P.,
Penllergare, Swansea.
1878 Lloyd, Thomas,
51, *Cannon-street, E.C.*
1879 Lloyd, Wilson, F.R.G.S.,
Myvod House, Wood-green, Wednesbury.
1888 LOCH, CHARLES S., B.A. (*Vice-President*),
Hedge Row Cottage, Queen Anne's-gardens, Bedford-park.
1882 *LONGSTAFF, GEORGE BLUNDELL, M.A., M.D., F.R.C.P. (*Vice-President*).
Highlands, Putney Heath, S.W.
1876 *Lornie, John Guthrie, J.P. (*of Birnam and Pitcastle*),
Rosemount, Kirkcaldy, N.B.
1892 Lough, Thomas, M.P.,
29, *Hyde Park-gate, S.W.*
1886 *Low, Malcolm,
22, *Roland-gardens, S.W.*
1895 Lowe, Thomas Enoch, F.S.A.A.,
89, *Darlington-street, Wolverhampton.*
1889 Lowles, John, M.P.,
Hill-crest, Darenth-road, Stamford-hill, N.
1865 LUBBOCK, THE RIGHT HON. SIR JOHN, BART., M.P. F.R.S. (*Trustee*),
High Elms, Farnborough, Kent.
1878 Lucas, Sir Thomas, Bart., J.P.,
37, *Great George-street, Westminster, S.W.*

1875 *Mabson, Richard Rous,
51, *Cannon-street, E.C.*
1873 *Macandrew, William, J.P.,
Westwood House, near Colchester.
1894 Macaulay, Thomas Bassett,
Sun Life Assurance Co. of Canada, Montreal, Canada.
1890 McAuslane, James (*Dunster House, Mincing-lane, E.C.*),
Glenrose, Balham Park-road, S.W.
1891 MacBrayne, John Burns,
17, *Royal Exchange-square, Glasgow.*

Year of Election.	
1884	McCabe, William, LL.B., F.I.A., *Drawer* 2,591, *Toronto, Canada.*
1888	McCankie, James, 63, *George-street, Edinburgh.*
1867	M'Clean, Frank. *Rusthall House, Tunbridge Wells.*
1892	McCleery, James C., *Old Bank Chambers,* 8, *Park Row, Leeds.*
1887	Macdonald, Andrew J.,
1872	**Macdonell, John**, LL.D., *Room* 183, *The Royal Courts of Justice, Strand, W.C.*
1873	*McEwen, Laurence T., *c/o. R. A. McLean,* 1, *Queen Victoria-street, E.C.*
1886	*Mackenzie, Colin, F.R.G.S.,
1878	McKewan, William, *Elmfield, Bickley, Kent.*
1893	Mackinney, Frederick Walker, *London County Council, Spring Gardens, S.W.*
1876	*McLean, Robert Allan, F.R.G.S., 1, *Queen Victoria-street, E.C.*
1863	*Maclure, John William, M.P., J.P., D.L., *Carlton Club; The Home, Whalley Range, Manchester.*
1888	McNiel, Henry, 5, *Cross-street, Manchester.*
1875	Macpherson, Hugh Martin, F.R.C.S. (*Inspector-General*), 14, *St. James's-square, S.W.*
1887	Macpherson, Walter Charles Gordon, *Howrah, E.I.R., Bengal, India.*
1883	Macqueen, Robert Davidson Barkly, 20, *Upper Addison-gardens, Kensington, W.*
1882	MacRosty, Alexander, *West Bank, Esher.*
1889	McVail, John C., M.D., &c., 2, *Strathallan-terrace, Dowanhill, Glasgow.*
1891	Maidment, Thomas, 1, *Gloucester-terrace, Southsea.*
1887	Makower, Maurice, 11, *Randolph-crescent, Maida Vale, W.*
1887	Malleson, Frank R., *Dixton Manor House, Winchcombe, Cheltenham.*
1884	*Manson, Frederick William, *Wellfield, Muswell Hill, N.*
1888	Manuel, James, *c/o The London and Provincial Bank, Cardiff.*
1877	*Maple, Sir John Blundell, M.P., 8, *Clarence-terrace, Regent's-park, N.W.*
1880	*Marshall, Professor Alfred, M.A., *Balliol Croft, Madingley-road, Cambridge.*

Year of Election.	
1894	Marshall, David, *P.O. Box 45, Durban, Natal.*
1887	Marshall, W. Bayley, M.Inst.C.E., M.Inst.M.E., *"Struan," Richmond Hill, Edgbaston, Birmingham.*
1887	Martin, James, 4, *King-street, Cheapside, E.C.*
1874	*MARTIN, JOHN BIDDULPH, M.A., F.Z.S. (*Trustee, Honorary Secretary, and Hon. Foreign Secretary*), 17, *Hyde-park-gate, S.W.*
1872	*MARTIN, RICHARD BIDDULPH, M.A., M.P. (*Treasurer*), 68, *Lombard-street, E.C., and Chislehurst.*
1876	*Martin, Thomas Jaques, 84, *Collins-street West, Melbourne, Victoria*
1884	Mason, William Arthur, 31*a*, *Colmore-row, Birmingham.*
1875	*Mathers, John Shackleton, *Hanover House, Leeds, Yorkshire.*
1883	Mathieson, Frederic Coxhead, *Beechworth, Hampstead, N.W.*
1891	Maxwell, Robert George, *P.O. Box*, 299, *Cape Town.*
1882	Medhurst, John Thomas, *Clay-hill, White Hart-lane, Tottenham.*
1883	*Medley, George Webb, 21, *Park-street, Park-lane, W.*
1853	*Meikle, James, F.I.A., 6, *St. Andrew's-square, Edinburgh.*
1890	Merriman, Hon. John Xavier, *Cape Town, Cape of Good Hope.*
1884	Merton, Zachary, 18, *Chesham-place, S.W.*
1890	Miller, Gordon William, *Admiralty, Spring Gardens, S.W*
1879	Miller, William, 67, *Queen Victoria-street, E.C.*
1889	Mills, Major Henry Farnsby,
1892	MILNER, SIR ALFRED, K.C.B., M.A., *Inland Revenue Office, Somerset House, Strand, W.C.*
1882	Milnes, Alfred, M.A., 22*a*, *Goldhurst-terrace, S. Hampstead, N.W.*
1895	Milton, Viscount, M.P., 4, *Grosvenor-square, W.*
1874	*Mocatta, Frederick D., F.R.G.S., 9, *Connaught-place, W.*
1878	Moffat, Robert J., *Bank House, Cambridge.*
1888	*Molloy, William R. J., M.R.I.A. (*National Education Board*), 17, *Brookfield-terrace, Donnybrook, Dublin.*

Year of Election.
1887 Moore, Arthur Chisholm,
23, Essex-street, Strand, W.C.
1874 Moore, Charles Kendall,
137, Brockley-road, Lewisham-road, S.E.
1878 *Moore, John Byers Gunning,
Loymount, Cookstown, Ireland.
1893 Morgan, Percy Charlton,
5, Victoria-street, S.W.
1874 *Morris, James, M.D., F.R.C.S.,
13, Somers-place, Hyde-park-square, W.
1888 Morris, John (17, *Throgmorton-avenue, E.C.*),
34, Hyde-park-square, W.
1891 Morrison, Rev. William Douglas,
6, Heathfield-road, Wandsworth-common, S.W.
1885 *Mosley, Tonman,
Bangors, Iver, Uxbridge.
1847 *MOUAT, FREDERIC JOHN, M.D., F.R.C.S., LL.D. (*Honorary Vice-President*),
12, Durham-villas, Kensington, W.
1886 Mowbray, Robert Gray Cornish, M.P.
10, Little Stanhope-street, S.W.
1886 Moxon, Thomas B.,
Manchester and County Bank Limited, Manchester.
1889 Muir, Robert, jun.,
Clydesdale Wolseley-road, Crouch-end, N.
1883 Muirhead, Henry James,
"Fairfield," Hythe, Kent, and Reform Club, S.W.
1880 Mulhall, Michael George,
Las Barrancas, Ballybrack, Co. Dublin.
1890 Mumby, Bonner Harris, M.D,
Portsmouth.
1878 *Mundella, The Right Hon. Anthony John, M.P., F.R.S,
16, Elvaston-place, Queen's-gate, S.W.
1891 Murphy, Shirley Foster, M.R.C.S.,
22, Endsleigh-street, Tavistock-square, W.C.
1878 Murray, Adam,
Hazeldean, Kersal, Manchester.
1890 Musgrave, James,
Brookland, Heaton, Bolton.

1892 Naoroji, Dadabhai,
National Liberal Club, S.W.
1888 Narraway, W. F.,
Crooms Hill House, Greenwich, S.E.

Year of Election.	
1889	Nash, William, M.D., M.R.C.S. (*Surgeon-Colonel*), *Principal Medical Officer, Army of Occupation, Cairo.*
1878	*Nathan, Henry, *Dashwood House, New Broad-street. E.C.*
1869	NEISON, FRANCOIS GUSTAVUS PAULUS, F.I.A., 93, *Adelaide-road, South Hampstead.*
1895	Nesbitt, Thomas Huggins (*Town Clerk*), *Douglas, Isle of Man.*
1877	Nevill, Charles Henry, 11, *Queen Victoria-street, E.C.*
1862	Newbatt, Benjamin, F.I.A., F.R.G.S., 15, *St. James's-square, S.W.*
1894	Newey, William Lewis, F.S.A.A., 39, *Temple-row, Birmingham.*
1883	Newmarch, Mrs. Elizabeth, *Mulnanth*, 5, *Harrold-road, Upper Norwood S.E.*
1889	Newsholme, Arthur, M.D., 11, *Gloucester-place, Brighton.*
1895	*Nicholson, Charles Norris, 35, *Harrington-gardens, South Kensington, S.W.*
1878	Nicholson, Professor J. Shield, M.A., D.Sc., *University of Edinburgh.*
1858	Nightingale, Miss Florence, 10, *South-street, Park-lane, W.*
1877	Nix, Samuel Dyer, F.C.A., 3, *King-street, Cheapside, E.C.*
1871	*Noble, Benjamin, F.R.A.S., *North-Eastern Bank, Newcastle-on-Tyne.*
1877	Norman, General Sir Henry Wylie, K.C.B., G.C.M.G.
1878	Northbrook, The Right Hon. the Earl of, G.C.S.I., D.C.L., 4, *Hamilton-place, Piccadilly, W.*
1878	Notthafft, Theodor, *St. Petersburg Int. Commercial Bank, St. Petersburg*
1888	Oakley, Sir Henry (*General Manager, G.N.R.*), 37, *Chester-terrace, Regent's-park, N.W.*
1893	O'Connor, Vincent C. Scott (*Inspector of Local Funds*), *Currency Office, Rangoon, Burma.*
1884	Odgers, William Blake, M.A., LL.D., Q.C., 4, *Elm-court, Temple, E.C.; & Fitzjohn's-avenue, N.W.*
1880	*Oelsner, Isidor,

of Election.

1862 Ogbourne, Charles Henry, A.I.A.
29, Dalhousie-square, Calcutta.

1885 OGLE, WILLIAM, M.A., M.D., F.R.C.P., &c.,
10, Gordon-street, Gordon-square, W.

1885 *Oldham, John,
River Plate Telegraph Company, Montevideo.

1884 Oldroyd, Mark, M.P.,
Hyrstlands, Dewsbury, Yorkshire.

1892 Onslow, The Right Hon. The Earl of, G.C.M.G.,
7, Richmond-terrace, S.W.

1878 Oppenheim, Henry,
16, Bruton-street, Bond-street, W.

1877 Ormond, Richard,
24, Grainger-street West, Newcastle-on-Tyne.

1889 Oung, Moung Hla (*Assistant Comptroller*),
Rangoon, Burma.

1894 Owen, Edgar Theodore,
Friendly Societies Office, Perth, Western Australia.

1887 Owen, Evan F., A.I.A.,
Actuary for Friendly Societies, Melbourne, Victoria.

1887 *Page, Edward D., (*Box* 3382,)
c/o Faulkner, Page, & Co., New York City, U.S.A.

1886 Pain, James,
St. Mary's-street, Ely.

1866 *Palgrave, Robert Harry Inglis, F.R.S.,
Belton, Great Yarmouth, Norfolk.

1879 Palmer, George, J.P.,
The Acacias, Reading.

1887 Pankhurst, Richard Marsden, LL.D. (5, *New-inn-square, W.C.*),
10, St. James's-square, Manchester.

1888 Pannell, William Henry,
Library-chambers, Basinghall-street, E.C.

1878 Park, David Francis, C.A., F.F.A., A.I.A.,
39, Lombard-street, E.C.

1887 Parker, Archibald,
Camden-wood, Chislehurst, Kent.

1878 Parry, Thomas,
Grafton-place, Ashton-under-Lyne.

1879 Partridge, Henry Francis, L.D.S., &c.,
Sussex House, Glendower Place, South Kensington Station, S.W.

Year of Election.

1883 Paterson, John,
1, *Walbrook, E.C.*

1888 Pattullo, James Durie,
31, *St. Swithin's-lane, E.C.*

1877 Paul, Henry Moncreiff,
12, *Lansdowne-crescent, Notting-hill, W.*

1878 Paulin, David,
6, *Forres-street, Edinburgh.*

1893 Payne, Alexander William, F.C.A.,
70, *Finsbury-pavement, E.C.*

1884 *Peace, Walter, C.M.G.,
64, *Victoria-street, Westminster, S.W.*

1880 *Pease, Sir Joseph Whitwell, Bart., M.P.,
Hutton Hall, Gisborough, Yorks.

1876 *Peek, Sir Henry William, Bart.,
Rouson, Devon.

1895 Peixotto, M. Percy (*U.S. Equitable Life Office*).
24, *Rue de la République, Lyon, France.*

1880 Pender, Sir John, G.C.M.G., M.P.,
18, *Arlington-street, S.W.;* 50, *Old Broad-street, E.C.*

1891 Penn-Lewis, William,
8, *Halford-road, Richmond, Surrey.*

1894 Perris, George Herbert,
33, *Burnaby-gardens, Chiswick, W.*

1890 Peters, John Wyatt,
The Gables, Grove-road S., Southsea.

1883 Petheram, Frederick William, F.C.A.,
61, *Gracechurch-street, E.C.*

1886 Peto, Sir Henry, Bart., M.A.,
Chedington Court, Misterton, Crewkerne, Somersetshire.

1887 Phelps, Major-General Arthur,
23, *Augustus-road, Edgbaston, Birmingham.*

1886 *Phelps, The Rev. Lancelot Ridley, M.A.,
Oriel College, Oxford.

1895 Phillips, Robert Edward (A.M.Inst.C.E.),
70, *Chancery-lane. E.C.*

1877 Phillipps, Henry Matthews,

1871 *Pickering, John, F.R.G.S., F.S.A.,
86, *Thicket-road, Anerley, S.E.*

1885 Pierrard, Paul,
9, *Rue Léo Delibes, Paris.*

1878 *Pim, Joseph Todhunter,
Rinnamara, Monkstown, County Dublin.

1886 Pink, J. Francis,
62, *Chandos-street, Strand. W.C.*

1877 Pirbright, The Right Hon. Lord,
Carlton Club, Pall Mall, S.W.

1890 **Pittar, Thomas J.,**
H.M. Custom House, E.C.

Year of Election.	
1879	Pixley, Francis William, F.S.A., 23, *Linden-gardens*, *W.*
1881	Planck, Charles, M.R.C.S. (*Deputy Surgeon-General*), *Allahabad*, *India.*
1883	Platt, James, *Rookwood*, *Hampstead*, *N.W.*
1895	Platt-Higgins, Frederick, M.P., *Homeleigh*, *Bowdon*, *Cheshire.*
1861	Plowden, Sir Wm. Chicele, K.C.S.I. (5, *Park-cres.*, *Portland-place*, *W.*); *Aston Rowant House*, *Tetsworth*, *Oxon.*
1888	Pollard, James, J.P. *Chamber of Commerce*, *Edinburgh.*
1884	Polson, John, *West Mount*, *Paisley*, *N.B.*
1891	Pope, Henry Richard, 11, *Templeton-place*, *Earl's-court*, *S.W.*
1891	Potter, Henry, 222, *Queen's-road*, *New Cross Gate*, *S.E.*
1879	*Powell, Sir Francis Sharp, Bart., M.P. (*Horton Old Hall*, *Bradford*). 1, *Cambridge-square*, *Hyde-park*, *W.*
1888	Powell, James Heslop, 17, *Gracechurch-street*, *E.C.*
1895	Powell, Thomas Edmund, *Oakridge*, *Dorking.*
1871	Power, Edward, 16, *Southwell-gardens*, *South Kensington*, *S.W.*
1877	*Prance, Reginald Heber, *Frognal*, *Hampstead*, *N.W.*
1877	Praschkauer, Maximilian, 109, *Fenchurch-street*, *E.C.*
1867	*Pratt, Robert Lindsay, 80, *Bondgate*, *Darlington.*
1894	Price, James,
1887	*Price, L. L., M.A., *Oriel College*, *Oxford.*
1877	Price-Williams, Richard, M.Inst.C.E., 32, *Victoria-street*, *S.W.*
1887	Probyn, Lesley Charles, 79, *Onslow-square*, *S.W.*
1889	Probyn, Major Clifford, 55, *Grosvenor-street*, *Grosvenor-square*, *W.*
1884	*Proctor, William, 89, *Corporation-street*, *Manchester.*
1886	Provand, Andrew Dryburgh, M.P., 2, *Whitehall-court*, *S.W.*
1871	Puleston, Sir John Henry, 2, *Bank-buildings*, *Princes-street*, *E.C.*
1886	Pulley, Sir Joseph, Bart., 90, *Piccadilly*, *W.*

Year of Election.	
1874	Quain, Sir Richard, Bart., M.D., F.R.S., F.R.C.P., 67, *Harley-street, W.*
1888	Quirk, William Henry, 9, *Gracechurch-street, E.C.*
1883	Rabbidge, Richard, F.C.A., 32, *Poultry, E.C.*
1872	*Rabino, Joseph, (*Chief Manager*), *Imperial Bank of Persia, Teheran.*
1888	*Radcliffe, Sir David, J.P., *Thurstaston Hall, near Birkenhead.*
1858	*Radstock, The Right Honourable Lord, *Mayfield, Woolston, Southampton.*
1888	Rae, George, *Redcourt, Birkenhead.*
1885	Rae, John, M.A., 37, *Werter-road, Putney, S.W.*
1887	Raffalovich, His Excellency Arthur, 19, *Avenue Hoche, Paris.*
1877	Raikes, Lieut.-Col. George Alfred, F.S.A., F.R. Hist. Soc., 63, *Belsize-park, Hampstead, N.W.*
1860	Ramsay, Alexander Gillespie, F.I.A., *Canada Life Assurance Co., Hamilton, Canada West.*
1885	Randell, James S., 19, *Alfred-street, Bath.*
1880	Rankin, James, M.P., 35, *Ennismore-gardens, Prince's-gate, S.W.*
1884	Raphael, Alfred, 87, *Alexandra-road, N.W.*
1878	Rathbone, William, 18, *Prince's-gardens, Prince's-gate, S.W.*
1884	*Ravenscroft, Francis, *Birkbeck Bank, Chancery-lane, W.C.*
1874	*Ravenstein, Ernest George, F.R.G.S., 91, *Upper Tulse-hill, Brixton, S.W.*
1886	Rawlins, Frederick, *Southport, Queensland.*

Year of Election.	
1877	*Rawlins, Thomas, 45, *King William-street, E.C.*
1895	Rawlinson, Albert, 3/5, *Garstin's Place, Calcutta.*
1895	Rawson, Cecil Frank, B.A., *Bury St. Edmunds.*
1835	RAWSON, SIR RAWSON W., K.C.M.G., C.B. (*Honorary Vice-President*), 68, *Cornwall-gardens, Queen's-gate, S.W.*
1893	Rea, Charles Herbert Edmund, 223, *Norwood-road, Herne Hill, S.E.*
1889	*Reed, Thomas, F.C.A., 63, *King-street, South Shields.*
1888	Reid, Herbert Lloyd, *Ardentinney, Balham Park-road, Balham, S.W.*
1888	Rew, Robert Henry, 8, *Wharton-road, West Kensington, W.*
1886	Rhens, Robert, 20, *Fussett-square, Dalston, E.*
1888	Rhodes, George Webber, 131, *Wool Exchange, E.C.*
1895	Richards, Roger C. (*Middle Temple*), 166, *Rossendale-road, Dulwich, S.E.*
1892	Richards, Westley, J.P., *Ashwell, Oakham, Rutland.*
1892	Richardson, Hubert,
1888	Richardson, J. H., 8, *Finch-lane, Cornhill, E.C.*
1895	Richardson, Thomas, M.P., *Kirklevington Grange, Yarm, Yorks.*
1891	Ridge, Samuel H., B.A., F.R.G.S., F.R. Hist. S.
1873	Ripon, The Most Hon. the Marquess of, K.G., F.R.S, &c., 9, *Chelsea Embankment, S.W.*
1892	Rivington, Francis Hansard, 44, *Connaught-square, W.*
1887	Roberts, Arthur Herbert, F.C.A., F.R.G.S.,
1882	Roberts, Edward, F.R.A.S. (*Nautical Almanac Office*), 3, *Verulam-buildings, Gray's Inn, W.C.*
1890	Roberts, Sir William, M.D., F.R.S., 8, *Manchester-square, W.*
1894	Robertson, James Barr, 3, *Whitehall-court, S.W.*
1885	Robertson, Thomas Stewart, 1, *Market-bldngs., Collins-street, W., Melbourne, Victoria.*
1887	Robinson, Henry James, *St. John's Villa, Woodlands, Isleworth, W.*

Year of Election.	
1886	Roechling, Herman Alfred, A.M. Inst. C.E., 23, *Highfield-street, Leicester.*
1880	*Ronald, Byron L., 14, *Upper Phillimore-gardens, W.*
1873	*Rosebery, The Right Hon. the Earl of, LL.D., F.R.S., 38, *Berkeley-square, W.*
1892	Ross, Charles Edmonstone, F.S.A.A., *Ness Villa, Simla, India.*
1893	Rothwell, Richard Pennefather (*Editor, Engineering and Mining Journal*), 253, *Broadway, Room* 817, *New York, U.S.A.*
1865	Ruck, George Thomas, *The Hawthorns, Dorville-road, Lee, S.E.*
1890	Ruffer, Marc Armand, M.A., M.D., B.Sc., 5, *York-terrace, Regent's-park, N.W.*
1888	Rusher, Edward Arthur, F.I.A., 142, *Holborn Bars, E.C.*
1886	Russell, Arthur B., A.C.A., 11, *Ludgate hill, E.C.;* 16, *Dartmouth-park-road, N.W.*
1878	Russell, Richard F., 8, *John-street, Adelphi, W.C.*
1887	Russell, Thomas, C.M.G., 59, *Eaton-square, S.W.*
1873	Rutherford-Elliot, J. G., *Elphinstone, Tyndall's Park-road, Clifton, Bristol.*
1894	Sachs, Edwin Otho, 11, *Waterloo-place, Pall Mall, S.W.*
1873	*Salisbury, The Most Hon. the Marquess of, K.G., P.C., F.R.S., 20, *Arlington-street, W.*
1875	*Salomons, Sir David Lionel, Bart., J.P., *Broom-hill, Tunbridge Wells.*
1876	Salt, Thomas, *Weeping Cross, Stafford.*
1892	Samuel, Charles, 176, *Sutherland-avenue, Harrow-road, W.*
1868	Samuelson, Sir Bernhard, Bart., F.R.S., 56, *Prince's-gate, Hyde-park, S.W.*
1895	Sanger, Charles Percy, B.A., 3, *Hare-court, Temple, E.C.*
1891	Sarda, Pandit Har Bilas, B.A., M.R.A.S., *Government College, Ajmere, India.*

Year of Election.	
1895	Satthianadhan, Professor S., M.A., *Presidency College, Madras, India.*
1886	Sauerbeck, Augustus, 4, *Moorgate-street-buildings, E.C.*
1893	Saunders, Cecil Roy, F.I. Inst., *Downs House, Eling, Hants.*
1877	Saunders, Charles Edward, M.D., *County Asylum, Hayward's Heath, Sussex*
1852	Saunders, James Ebenezer, F.G.S., J.P., 9, *Finsbury-circus, E.C.*
1888	Sawyer, Lucian Willard, *Billiter-square Buildings, E.C.*
1887	*Scarth, Leveson, M.A., *Elms-lea, Cleveland-walk, Bath.*
1883	Schidrowitz, Samuel, 102, *Oxford-gardens, Notting-hill, W.*
1877	Schiff, Charles, 22, *Lowndes-square, S.W.*
1891	*Schloss, David F., M.A., 1, *Knaresborough-place, Cromwell-road, S.W.*
1895	Schmidt, Hermann, *Lombard House, George-yard, Lombard-street, E.C.*
1891	Schooling, John Holt, *Vine House, The Vineyard, Richmond-hill.*
1895	Schuurman, Willem H. A. Elink, 137, *Grosvenor-road, Highbury, N.*
1883	*Schwann, John Frederick, *Oakfield, Wimbledon, S.W., and* 6, *Moorgate-street, E.C.*
1892	Scofield, Ernest Frank, B.A.,
1885	Scott, Rev. John Davidson, M.A., *The Vicarage, Cholmondeley, Malpas.*
1888	Scotter, Sir Charles (*General Manager, L. & S.W.R.*), *Waterloo Station, Waterloo-road, S.E.*
1887	Seaton, Edward, M.D., Lond., F.R.C.P., 56, *North-side, Clapham-common, S.W.*
1880	*Seeley, Charles, M.P., *Sherwood Lodge, Nottingham.*
1886	Seyd, Ernest J. F., 38, *Lombard-street, E.C.*
1873	Seyd, Richard, 38, *Lombard-street, E.C.*
1888	Shaw, James Charles, 35, *Leinster-gardens, Hyde Park, W.*
1894	Shaw, William Arthur, M.A., 6, *Lothair-villas, Hatfield, Herts.*
1879	Shepheard, Wallwyn Poyer Burnett, M.A., 15, *Old Square, Lincoln's-inn, W.C.*
1885	Sherwin, Joseph Henry, 16, *Whitehall-place, S.W.*

Year of Election.	
1888	Shillcock, Joshua, M.A., *Bank of England, West Branch, Burlington-gardens, W.*
1871	Sidgwick, Professor Henry, M.A., *Trinity College, Cambridge.*
1886	Silver, Stephen William, 3, *York-gate, Regent's-park, N.W.*
1878	Simmonds, G. Harvey, 1, *Whitehall, S.W.*
1892	*Sinclair, Captain John, 101, *Mount-street, Berkeley-square, W.*
1850	Singer, Charles Douglas, *Silverton, Silver-street, Enfield Town.*
1893	Sitta, Professore Dottor Pietro, *Corso Giovecca No.* 84, *Ferrara, Italy.*
1881	Skrine, Francis Henry B., J.P., *c/o Messrs. King, Hamilton, and Co., Calcutta, India.*
1888	Slade, Alfred Thomas, *Wardrobe-chambers, Queen Victoria-street, E.C.*
1888	Slade, Francis William, 17, *Victoria-street, Westminster, S.W.*
1883	Sly, Richard Stevens, F.R.G.S., *Fern Villa, Queen's-road, New Cross Gate, S.E.*
1869	Smee, Alfred Hutcheson, M.R.C.S., *The Grange, Wallington, Surrey.*
1886	*Smith, Arthur Manley, 29, *Lincoln's Inn-fields, W.C.*
1878	*Smith, Charles, M.R.I.A., F.G.S., Assoc. Inst. C.E., *c/o Sir Henry Gilbert, F.R.S., Harpenden, St. Albans.*
1883	*Smith, The Hon. Sir Donald A., K.C.M.G., LL.D., 1157, *Dorchester-street, Montreal, Canada.*
1871	Smith, E. Cozens, 1, *Old Broad-street, E.C.*
1878	*Smith, George, LL.D., C.I.E., *Serampore House, Napier-road, Edinburgh.*
1889	Smith, George Armitage, M.A., 26, *Regent's Park-road, N.W.*
1888	Smith, H. Llewellyn, B.A., B.Sc. 49, *Beaumont-square, E.*
1877	Smith, Howard S., A.I.A., F.F.A. 37, *Bennett's Hill, Birmingham.*
1878	*Smith, James, *South Indian Railway, Trichinopoly, Madras Presidency.*
1893	*Smith, James McLaren Stuart, M.A., F.R.G.S., F.R.S.L., 3, *Elm-court, Temple, E.C.*
1891	Smith, James Parker, M.P., *Jordanhill, Partick, N.B.*
1877	Smith, John, 8, *Old Jewry, E.C.*
1883	Smith, Samuel, M.P., 11, *Delahay-street, Westminster, and Reform Club, S.W.*

Year of Election.	
1888	Smith, Walter J., 19, *West Smithfield, E.C.*
1890	Smith, William Alexander, J.P., 21, *Castlereagh-street, Sydney, New South Wales.*
1894	*Smith, The Hon. William Frederick Danvers, M.P., 3, *Grosvenor-place, S.W.*
1894	Smithers, Frederick Oldershaw, 171, *Adelaide-road, N.W.*
1887	Snell, Arthur Henry, 27, *Mincing-lane, E.C.*
1895	Soward, Alfred Walter, 28, *Therapia-road, Honor Oak, S.E.*
1855	Sowray, John Russell, 2, *Princes-mansions, Victoria-street, S.W.*
1889	Speirs, Edwin Robert, 5, *Harrington-gardens, Queen's Gate, S.W.*
1867	*Spencer, Robert James, 175, *King's-road, Southsea.*
1892	Spender, John Alfred, M.A., 29, *Cheyne-walk, S.W.*
1883	Spicer, Albert, 50, *Upper Thames-street, E.C.*
1856	*Sprague, Thomas Bond, M.A., F.I.A., 26, *St. Andrew-square, Edinburgh.*
1872	Spriggs, Joseph, *Foxton, near Market Harborough.*
1882	Stack, Thomas Neville (9, *Crosby-square, E.C.*), 70, *Gloucester-crescent, Regent's Park, N.W.*
1889	Stanton, Arthur G., 13, *Rood-lane, E.C., & 70, Granville-park, Blackheath, S.E.*
1877	Staples, Sir Nathaniel Alexander, Bart., *Lissan, Cookstown, Tyrone, Ireland.*
1880	Stark, James, 17, *King's Arms-yard. E.C.*
1880	Stephens, William Davies, J.P. (Alderman), 22, *Percy-gardens, Tynemouth.*
1882	*Stern, Edward D., 4, *Carlton-house-terrace, S.W.*
1885	Stevens, Marshall, *Bolton Lodge, near Eccles.*
1877	Stone, William Alfred, 90, *Cannon-street, E.C.; Hayton, Bramley Hill, Croydon.*
1889	Stow, Harry Vane, *National Liberal Club, Whitehall-place, S.W.*
1872	Strachey, General Richard, R.E., C.S.I., F.R.S., 69, *Lancaster-gate. W.*
1893	Strahan, Samuel Alexander Kenny, M.D., *Berry Wood, Northampton.*
1880	Strutt, Hon. Frederick, *Milford House, near Derby.*

Year of Election.
1891 Stuart, Harold A.,
c/o Macfadyen & Co., 144, Winchester Ho., Old Broad-st. E.C.
1884 *Sugden, Richard,
The Farre Close, Brighouse, Yorkshire.
1895 Sutherland, J. Francis, M.D.,
23, *Rutland-square, Edinburgh.*
1881 Sykes, George Samuel,
1, *Grant's-lane, Calcutta, India.*

1894 Tagliaferro, Napoleone, F.R.H.S.,
Education Office, Malta.
1859 *Tait, Patrick Macnaghten, F.R.G.S.,

1889 Tarling, Charles,

1889 Tattersall, William,
Hazelwood, Hale, Cheshire.
1889 Tayler, Stephen Seaward (Alderman),
151, *Brixton-road, S.W.*
1887 Taylor, R. Whately Cooke,
Regent Chambers, 121, *West Regent-street, Glasgow.*
1888 *Taylor, Theodore Cooke, J.P.,
Sunny Bank, Batley, Yorkshire.
1893 Teece, Richard, F.I.A., F.F.A.,
c/o H. S. King & Co., 65, *Cornhill, E C.*
1884 Tempany, Thomas William, F.R.H.S.,
25, *Bedford-row, W.C.*
1888 Temperley, William Angus, jun.,
2, *St. Nicholas-buildings, Newcastle-on-Tyne*
1888 Theobald, John Wilson,
85, *Palmerston-buildings, E.C.*
1889 Thodey, William Henry,
479, *Collins-street, Melbourne, Victoria.*
1888 Thomas, David Alfred, M.P.,
Llanwern, near Newport, Mon.
1887 Thomas, John,
18, *Wood-street, E.C.*
1879 Thomas, W. Cave,
8, *Hazlitt-road, Kensington, W.*
1864 *Thompson, Henry Yates,
26*a*, *Bryanston-square, W.*
1895 Thomson, David Couper, J.P.,
Dundee Courier Office, Dundee.

Year of Election.

1890 Thring, The Right Hon. Lord, K.C.B.,
5, Queen's Gate-gardens, S.W

1882 Tinker, James,
Hordlecliff, Lymington, Hants.

1889 Touch, George Alexander,
26, *Compayne-gardens, South Hampstead, N.W.*

1868 *Treatt, Frank Burford, J.P.,
Fernmount, Bellenger River, New South Wales.

1868 Tritton, Joseph Herbert,
54, *Lombard-street, E.C.*

1892 Trobridge, Arthur,
Bloxcidge House, Langley Green, near Birmingham.

1887 Tunley, George,
3, *Foley-avenue, Hampstead, N.W.*

1878 Turnbull, Alexander,
118, *Belsize-park-gardens, N.W.*

1895 Turnbull, Robert E.,
Burnell House, Shrewsbury.

1890 *Turner, Rev. Harward, M.D., Paris, B.Sc., F.R.M.S.,

1885 Turner, William,
Board of Trade, Cardiff.

1892 Tyler, Edgar Alfred,
3, *George-yard, Lombard-street, E.C.*

1841 Tyndall, William Henry, F.I.A.,
Morlands, Oxford-road, Redhill.

1893 Tyrer, Thomas, F.I.C., F.C.S.,
Stirling Chemical Works, Stratford, E.

1877 *Urlin, Richard Denny,
22, *Stafford-terrace, Phillimore-gardens, W.*

1888 Van Raalte, Marcus,
22, *Austin Friars, E.C.*

1890 Venn, John, D.Sc., F.R.S.,
Caius College, Cambridge.

1889 Venning, Charles Harrison.
39, *Victoria-street, Westminster, S.W.*

1888 Verdin, William Henry, J.P.,
Winsford, Cheshire.

Year of Election.	
1894	Verney, Frederick William, 6, *Onslow-gardens, S.W.*
1886	VERULAM, THE RT. HON. THE EARL OF (*Vice-President*), *Cell Barnes, St. Albans.*
1876	Vigers, Robert, 4, *Frederick's-place, Old Jewry, E.C.*
1885	Vincent, Frederick James, A.I.A., 38, *Queen's-road, South Hornsey, N.*
1877	Vine, Sir John Richard Somers, C.M.G., *Imperial Institute, S.W.*
1890	Walford, Ernest L., 2, *Shorter's-court, E.C.*
1890	Walkley, William Henry, 265, *Kentish Town-road, N.W.*
1868	Wallis, Charles James, 97, *Ridgmount-gardens, W.C.*
1880	Wallis, E. White, 49, *Clifton-hill, St. John's Wood, N.W.*
1888	Walmsley, Frederic, 1, *Fennel-street, Manchester.*
1876	Walter, Arthur Fraser, *Finchampstead, Wokingham, Berks.*
1879	Wansey, Arthur H., *Sambourne, Stoke Bishop, Bristol.*
1893	Ward, William Cullen, 12, *Wynyard-square, Sydney, N.S.W.*
1888	Warren, Reginald Augustus, J.P., *Preston-place, near Worthing.*
1888	Wartnaby, William Wade, *Market Harborough, Leicestershire.*
1886	Waters, Alfred Charles, *General Register Office, Somerset House, Strand, W.C.*
1865	Waterhouse, Edwin, B.A., A.I.A., F.C.A., 44, *Gresham-street, E.C.*
1892	Wates, Charles Marshall, 1, *Vernon Chambers, Southampton-row, W.C.*
1894	Watson, Thomas Roberts, "*Burnleigh,*" *Sussex-road, Southport*
1883	Watson, T. Wilkinson, 183, *West George-street, Glasgow.*
1883	Watson, William Livingstone, *Reform Club Chambers,* 105, *Pall Mall, S.W.*

Year of Election	
1885	*Watt, William, 17, *Queen's-road, Aberdeen.*
1888	Webb, Henry Barlow, *Holmdale, Dorking.*
1893	Weedon, Thornhill, *Hawthorne-street, Woolloongabba, Brisbane, Queensland.*
1873	*Welby, The Right Hon. Lord, G.C.B., 11, *Stratton-street, Piccadilly, W.*
1874	Welch, Charles, F.S.A., *Guildhall, E.C. (Representing the Library Committee of the Corporation of the City of London.)*
1890	Weller, William Hamilton, *Colonial House,* 155, *Fenchurch-street, E.C.*
1889	Wells-Smith, Henry, A.C.A., 8, *Norfolk-row, Sheffield.*
1855	Welton, Thomas Abercrombie, 38, *St. James's-road, Brixton, S.W.*
1879	Wenley, James Adams, *Bank of Scotland, Bank-street, Edinburgh.*
1879	*Westlake, John, Q.C., LL.D., *The River House,* 3, *Chelsea Embankment, S.W.*
1882	*Whadcoat, John Henry, F.C.A., 18, *Highbury-crescent, N.*
1883	*Whadcoat, William Edward, 54, *Carleton-road, Tufnell-park, N.*
1878	Wharton, James, *Edgehill, Netherhall-gardens, FitzJohn's-avenue, N.W.*
1887	Whinney, Frederick, 8, *Old Jewry, E.C.*
1859	Whitbread, Samuel, 10, *Ennismore-gardens, Princes-gate, S.W.*
1887	*White, The Rev. George Cecil, M.A., *Nursling Rectory, Southampton.*
1863	White, Leedham, 16, *Wetherby-gardens, South Kensington, S.W.*
1871	White, William, 23, *Wynell-road, Forest-hill, S.E.*
1888	Whitehead, Sir James, Bart., J.P., D.L. (Alderman), 9, *Cambridge-gate, Regent's-park, N.W.*
1895	Whitehead, The Hon. Thomas Henderson, M.L.C., *Chartered Bank of India, &c., Threadneedle-st., E.C.*
1892	Whitelegge, Benjamin A., M.D., 10, *St. John's-square, Wakefield.*
1884	Whiteley, William, *Westbourne-grove, Bayswater, W.*
1895	Whittuck, Edward Arthur, M.A., B.C.L., 77, *South Audley-street, W.*
1879	*Whitwill, Mark, J.P., *Bristol.*

Year of Election	
1884	Wightman, Charles, 1, *Fenchurch-avenue, E.C.*
1895	Wilenkin, Gregory, *St. James's Club, Piccadilly. W.*
1893	Wilkinson, Rev. John Frome, M.A., *Barley Rectory, Royston, Herts.*
1875	Wilkinson, Thomas Read, *Vale Bank, Knutsford, Cheshire.*
1860	Willans, John Wrigley, *Mercury Office, Leeds.*
1894	Williams, Edward Frederick, *Joint Stock Bank, Halifax.*
1864	Williams, Frederick Bessant, F.S.A. (Scot.), 19, *Haymarket, S.W.*
1895	Williams, Harry Mallam, 8, *Forest-road, Priory Park, Kew.*
1881	*Williams, Henry Maunder, 261, *Queen's-road, New Cross, S.E.*
1870	Williams, Henry Reader, 6, *Lime-street, E.C., and The Priory, Hornsey, N.*
1888	*Williams, Robert, Jun., 20, *Birchin-lane, E.C.*
1895	*Willis, J. G., B.A., *Board of Trade, Whitehall Gardens, S.W.*
1891	Wilson, Henry Joseph, M.P., *Osgathorpe Hills, Sheffield.*
1884	Wilson, James (*Deputy Commissioner*), *Shahpur, Panjab, India.*
1874	*Wilson, Robert Porter, 5, *Cumberland-terrace, Regent's-park, N.W.*
1895	Wood, Alfred J., *Statistical Department, Custom House, E.C.*
1895	Wood, John Cundell, M.R.C.S., L.R.C.P., D.P.H. 3, *Belfort-terrace, Sunderland.*
1887	Woodhouse, Coventry Archer, 30, *Mincing-lane, E.C.*
1888	Woolfe, Thomas Rodriques, A.C.A., 65, *Watling-street, E.C.*
1890	Woollcombe, Robert Lloyd, LL.D., F.I. Inst., M.R.I.A., 14, *Waterloo-road, Dublin.*
1890	Worroll, Charles, *Colonial Mutual Life Office, Adderley-street, Cape Town.*
1895	Worsfold, Edward Mowll, *Market Square, Dover.*
1878	Worsfold, Rev. John Napper, M.A., *Haddlesey Rectory, near Selby, Yorkshire.*
1887	Worthington, A. W., B.A., *Old Swinford, Stourbridge.*
1880	Wren, Walter, M.A. 7, *Powis-square, W.*

Year of Election	
1895	Yanagisawa, Count, 27, *Augusta Strasse, Gross Lichterfelde, Berlin.*
1886	YERBURGH, ROBERT ARMSTRONG, M.P., 27, *Princes Gate, S.W.*
1888	*Yglesias, Miguel, 2, *Tokenhouse-buildings, E.C.*
1877	*Youll, John Gibson, *Jesmond-road, Newcastle-on-Tyne.*
1895	Yule, George U. (*University College, Gower-street, W.C.*), 4, *Carlingford-road, Hampstead, N.W.*

⁂ *The Executive Committee request that any inaccuracy in the foregoing list may be pointed out to the* ASSISTANT SECRETARY, *and that all changes of address may be notified to him, so that delay in forwarding communications and the publications of the Society may be avoided.*

HONORARY FELLOWS.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G.

Honorary President.

Argentine Republic.

Year of Election.

1890. DR. FRANCISCO LATZINA, **Calle Maipu, 982, Buenos Ayres.**
Director General of Statistics; Doctor *honoris causa* of the Faculty of Physical and Mathematical Sciences of the University of Cordoba; Knight of the Italian Order of S.S. Maurice and Lazare; Officer of the Academy of France; Member of the National Academy of Sciences, of the International Statistical Institute, of the Geographical and Statistical Societies of Paris, of the Society of Commercial Geography of Paris, and Corresponding Member of the National Historical Academy of Venezuela.

Austria-Hungary.

1890. DR. KARL THEODOR VON INAMA-STERNEGG, **Vienna.**
Doctor of Political Economy; Member of the Austrian House of Lords; President of the Imperial and Royal Central Statistical Commission; Professor at the University of Vienna.

1893. DR. JOSEPH DE JEKELFALUSSY, **Budapest.**
Doctor *Juris;* Advocate; Chief of the Royal Hungarian Statistical Bureau; Ministerial Councillor; Knight of the Order of Francis Joseph; Second Vice President of the Royal Hungarian Statistical Council; External Member of the Committee of Examiners for Political Sciences; Corresponding Member of the Hungarian Academy of Sciences.

1893. DR. FRANZ RITTER VON JURASCHEK, **Kärnthnerstrasse, 53, Vienna.**
Doctor *Juris et Philosophiæ;* "K.K. Regierungsrath;" Member and Secretary of the Imperial and Royal Central Statistical Commission; Professor at the University of Vienna; Professor of Public Law and of Statistics at the Military Academies, Vienna; Knight of the Austrian Order of the Iron Crown (3rd Class); Officer of the Order of the Crown of Italy; Member of the Permanent Commission for Commercial Values; of the International Statistical Institute; and of the British Economic Association.

Year of Election. **Austria-Hungary**—*Contd.*

1893. JOSEPH KÖRÖSI, **Budapest.**
Director of the Municipal Statistical Bureau of Budapest; *Docent* at the University of Budapest; President of the Municipal Statistical Committee; Knight of Several Orders; Member of the Statistical Commissions of Hungary, Belgium, and Nijni-Novgorod; Honorary Member of the American Statistical Associations; Member of the Hungarian Academy of Science, of the International Statistical Institute, of the Statistical Societies of Manchester and Paris, of the British Economic Association, and of several other learned Societies.

1877. MAX WIRTH, **Dreihufeisengasse. 1, Vienna.**
Economist; formerly Director of the Federal Statistical Bureau of Switzerland; Co-Editor of the "Neue Freie Presse."

Belgium.

1879. DR. EUGÈNE JANSSENS, **Rue du Lombard, 21, Brussels.**
Doctor of Medicine; Chief Inspector of the Board of Health of the City of Brussels; President of the Federal Committee of Health of the Brussels District; Member of the Central Statistical Commission, of the Superior Council of Health, of the Royal Academy of Medicine, and of the Local Medical Commission; Officer of the Belgian Order of Leopold and of the Italian Order of SS. Maurice and Lazare; Knight of the French Legion of Honour; Civic Cross of the 1st Class; Officer of the Academy of France; Associate of the Statistical Society of Paris and of the International Statistical Institute.

China.

1890. SIR ROBERT HART, Baronet, G.C.M.G., LL.D., **Peking.**
Inspector-General of Imperial Maritime Customs, China.

Denmark.

1878. VIGAND ANDREAS FALBE-HANSEN, **Copenhagen.**
Professor of Political Economy at the University of Copenhagen.

1852. DR. PETER ANTON SCHLEISNER, **Frederiksberg. Copenhagen.**
Doctor of Medicine, State Councillor; Knight and Bachelor of the Order of the "Dannebroge," and Knight of the Swedish Order of the North Star; President of the Royal Danish Institute of Vaccination; Member of the Royal Danish General Board of Health.

France.

Year of Election.

1880. **DR. JACQUES BERTILLON, 1, Avenue Victoria, Paris.**
Doctor of Medicine; Chief of the Statistical Department of the City of Paris; Member of the Superior Council of Statistics; of the Consultative Committee of Public Hygiene of France; and of the Statistical Society of Paris, &c.

1856. **MAURICE BLOCK, 63, Rue de l'Assomption, Paris.**
Knight of the Legion of Honour, and of Orders of Sweden, Russia, Prussia, Bavaria, Austria-Hungary, Greece, Italy, and Portugal; Member of the Institute of France, of the Superior Council of Statistics, of the International Statistical Institute, of the Society of Political Economy of Paris, and of many Academies and Scientific Societies.

1879. **DR. ARTHUR CHERVIN, 82, Avenue Victor Hugo, Paris.**
Doctor of Medicine and Surgery; Director of the Paris Institute for Stammerers; Member of the Superior Council of Statistics and of the International Statistical Institute, &c.

1878. **MAXIMIN DELOCHE, 5, Rue Herschel, Paris.**
Honorary Director of the General Statistics of France; Commander of the Legion of Honour; Officer of the Order of Public Instruction; Commander of the Austrian Order of Francis Joseph; Member of the Institute of France, and of several learned societies.

1890. **ALFRED DE FOVILLE, Hotel des Monnaies, Paris.**
Master of the Mint; Professor at the National Conservatoire of Arts and Trades (Chair of Industrial Economy and Statistics); Officer of the Legion of Honour; Laureate of the Institute of France; Past President of the Statistical Society of Paris; Member of the International Statistical Institute and of the Superior Council of Statistics.

1870. **DR. CLÉMENT JUGLAR, 167, Rue St. Jacques, Paris.**
Member of the Institute of France; Past President of the Statistical Society of Paris; Vice-President of the Society of Political Economy of Paris.

1860. **PIERRE ÉMILE LEVASSEUR, 26, Rue Monsieur le Prince, Paris.**
Member of the Institute of France; Professor at the College of France and at the Conservatoire of Arts and Trades; President of the Statistical Commission for Primary Instruction; Past President of the Statistical Society of Paris; Vice-President of the International Statistical Institute, of the Superior Council of Statistics, and of the Society of Political Economy, &c.

Year of Election.

France—*Contd.*

1880. JEAN BAPTISTE LÉON SAY. **Paris.**
Deputy; Ex-Minister of Finance; Member of the Institute of France; President of the Society of Political Economy of Paris; Past President of the Statistical Society of Paris, of the National Society of Horticulture, and of the National Society of Agriculture.

1887. DANIEL WILSON, **2, Avenue d'Jéna, Paris.**
Deputy; Ex-Under-Secretary of State; Past President of the Statistical Society of Paris.

1876. THE PRESIDENT (for the time being) OF THE STATISTICAL SOCIETY OF PARIS, **28, Rue Danton, Paris.**

Germany.

1871. SIR HENRY PAGE-TURNER BARRON, Baronet, C.M.G.
Late British Minister-Resident to the King of Wurttemberg.

1378. DR. KARL BECKER, **Im Grossherzogth. Oldenburg.**
"Wirklicher Geheimer Ober-Regierungsrath;" late Director of the Imperial Statistical Bureau of the German Empire; Honorary Doctor of the University of Tübingen; Corresponding Member of the Central Statistical Commission of Belgium; Honorary Member of the Geographical and Statistical Society of Frankfort, of the Statistical Society of Switzerland, and of the International Statistical Institute, Associate of the Statistical Society of Paris.

1890. KARL JULIUS EMIL BLENCK, **Lindenstrasse. 28, Berlin, S.W.**
"Geheimer Ober-Regierungsrath;" Director of the Royal Statistical Bureau of Prussia, also Member of the Prussian Central Statistical Commission and of the Central Board of Control of the Survey of Prussia; Honorary Member or Members of several learned Societies.

1854. DR. ERNST ENGEL, **Oberlosnitz, Radebeul, bei Dresden.**
"Geheimer Ober-Regierungsrath;" formerly Director of the Royal Statistical Bureau of Prussia; Member of several learned Societies.

1877. DR. GEORG VON MAYR, **Kaiser Wilhelmstrasse, 5, Strassburg.**
Ex-Under Secretary of State in the Imperial Ministry for Alsace-Lorraine; formerly Director of the Royal Statistical Bureau of Bavaria; Honorary Member of the International Statistical Institute; Honorary Professor at the University of Strassburg; Associate of the Statistical Society of Paris.

1893. DR. FRIEDRICH WILHELM HANS VON SCHEEL, **Lützow-Ufer, 6/8, Berlin, W.**
"Kaiserlicher Geheimer Regierungsrath;" Doctor *Juris et philosophiæ;* Director of the Imperial Statistical Bureau of the German Empire; formerly Professor of Political Economy and Statistics at the University of Bern; Honorary Member of the Statistical and Social Inquiry Society of Ireland.

Year of Election.

Germany—*Contd.*

1860. DR. GEORG KARL LEOPOLD SEUFFERT, **Maximiliansplatz, Nr. 9/3, Munich.**
Formerly Chief Inspector and Director of the Royal Custom-House at Simbach; Knight of the Bavarian Order of St. Michael 1st Class; Corresponding Member of the Central Statistical Commission of Belgium, Member of the "Freies Deutsches Hochstift zu Frankfurt a/M."

1876. THE PRESIDENT (for the time being) OF THE GEOGRAPHICAL AND STATISTICAL SOCIETY OF FRANKFORT. **Stadtbibliothek, Frankfort.**

Italy.

1879. DR. GEROLAMO BOCCARDO. **Piazzia Santi Apostoli, 74, Rome.**
Senator; Councillor of State; Doctor of Laws; late Professor at the University and at the Superior Naval School of Genoa; Grand Officer of the Orders of SS. Maurice and Lazare, and of the Crown of Italy; Knight of the Order of Civil Merit of Savoy; Member of the Academy "dei Lincei," of the Academy of Naples, of the Institutes of Science of Milan, Venice, and Palermo; of the Cobden Club, of the International Statistical Institute, of the Academy of Madrid, and of the Deputation of National History, &c.

1874. DR. LUIGI BODIO, **Rome.**
Doctor of Laws; Professor of Industrial Legislation and of Statistics at the Engineering College, Rome; Director-General of the Statistical Department of the State; Grand Officer of the Order of SS. Maurice and Lazare; Knight of the Order of Civil Merit of Savoy; Correspondent of the Institute France (Academy of Moral and Political Sciences).

1880. DR. LUIGI COSSA, LL.D., **University of Pavia.**
Professor of Political Economy; Commander of the Order of the Crown of Italy; Officer of the Order of SS. Maurice and Lazare; Member of the Cobden Club; Honorary Member of the American Economic Association; Ordinary Member of the Academy "dei Lincei" and of the Royal Institute of Sciences of Milan, Correspondent of the Royal Academies of Lisbon, Modena, Turin, Naples, &c.

1845. FRANCESCO FERRARA, **Venice.**
Senator; Professor and Director of the Royal Superior School of Commerce at Venice; late Minister of Finance; Member of the Academy "dei Lincei."

1880. ANGELO MESSEDAGLIA, **Rome.**
Senator; Professor of Statistics at the Royal University of Rome; Member of the Academy "dei Lincei."

1868. THE MARQUIS ERMENEGILDO DEI CINQUE QUINTILI, **Rome.**
Advocate; General Secretary of the Hospitals Commission of Rome.

Mexico.

Year of Election.

1895. DON MANUEL FERNANDEZ LEAL, **Mexico.**

Secretary of State, Department of "Fomento," Colonization and Industry. Mexico.

Netherlands.

1893. DR. VERKERK WILLIAM ARNOLD PETER PISTORIUS, **The Hague.**

Resident Minister, General Secretary to the Ministry of Foreign Affairs.

Russia.

1873. HIS EXCELLENCY PIERRE SEMENOV, **St. Petersburg.**

Senator; Privy Councillor to His Imperial Majesty; President of the Imperial Statistical Council; President of the Imperial Geographical Society; Honorary Member of the Academy of Sciences in St. Petersburg; Associate of the Statistical Society of Paris.

1890. HIS EXCELLENCY NICOLAS TROÏNITSKY, **25, Rue Kirotschnaia, St. Petersburg.**

Former Governor; Privy Councillor; Director of the Central Statistical Committee of the Ministry of the Interior; Life Member of the Statistical Council, of the Imperial Geographical Society of Russia, and of the International Statistical Institute, and Member of the Statistical Society of Paris.

Spain.

1845. HIS EXCELLENCY SEÑOR DON JOSÉ MAGAZ Y JAYME **Calle de Leon, 13, Madrid.**

Advocate, Gentleman of His Majesty's Chamber, and Member of the Council of State; Ex-Deputy of the Cortes; Ex-Senator; Ex-Director-General of Treasury; Ex-Under-Secretary of the Ministry of Finance; Grand Cross of the Order of Isabella Catolica; Commander of the Order of Carlos 3°.

Sweden and Norway.

1858. DR. THORKIL HALVORSEN ASCHEHOUG, **41, Josephinegade, Christiania.**

Doctor of Laws; Professor of Political Economy at the University of Christiania; Assessor Extraordinary of the Supreme Court of Norway; Commander of the First Class of the Norwegian Order of St. Olave, of the Swedish Order of the North Star; and of the Danish Order of the "Dannebroge;" Corresponding Member of the Institute of France; Member of the Institute of International Law, of the International Statistical Institute, and of the Academies of Christiania, Stockholm, Trondhjem and Upsala, also of the Royal Historical Society of Denmark.

Year of Election.

Sweden and Norway—*Contd.*

1874. ANDERS NICOLAI KIÆR, **Christiania.**
Director of the Central Statistical Bureau of Norway; Associate of the Statistical Society of Paris.

1860. THOMAS MICHELL, C.B., **Christiania.**
Her Majesty's Consul-General for Norway.

1890. DR. ELIS SIDENBLADH., Ph.D., **Stockholm.**
Director in Chief of the Central Statistical Bureau of Sweden; President of the Royal Statistical Commission; Commander, Officer, and Knight of several Swedish and Foreign Orders; Member of the Royal Academies of Sciences and of Agriculture, at Stockholm; Honorary and Corresponding Member of several foreign learned Societies.

Switzerland.

1890. DR. LOUIS GUILLAUME, **Bern.**
Doctor of Medicine; Director of the Federal Statistical Bureau; Secretary of the International Penitentiary Commission.

United States.

1873. THE HON. WILLIAM BARNES, **Thurlow-terrace, Albany, N.Y.**
Lawyer; Ex-Superintendent of the Insurance Department, State of New York.

1881. DR. JOHN SHAW BILLINGS, **Army Medical Museum, Washington.**
A.M., M.D., LL.D., Edinburgh and Harvard; D.C L., Oxon; Surgeon, U.S. Army; Member of the National Academy of Sciences, &c.

1890. DR. RICHMOND MAYO-SMITH, M.A., Ph.D., **Columbia College, New York.**
Professor of Political Economy and Social Science in Columbia College; Vice-President of the American Statistical Association; Member of the International Statistical Institute, and of the National Academy of Sciences.

1870. THE HON. JOHN ELIOT SANFORD, **Taunton, Mass.**
Lawyer; Ex-Speaker of the House of Representatives; Ex-Insurance Commissioner; Ex-Chairman of the Board of Harbour and Land Commissioners; Chairman of the Board of Railroad Commissioners.

1876. DR. FRANCIS AMASA WALKER, Ph.D., LL.D., **Boston, Mass.**
Formerly Superintendent of the United States Census; President of the Massachusetts Institute of Technology; Member of the International Statistical Institute and "Président Adjoint" for the Meeting of 1893; Correspondent of the Institute of France; President of the American Statistical Association; Ex-President of the American Economic Association; Vice-President of the National Academy of Sciences, Washington; Corresponding Member of the Central Statistical Commission of Belgium.

Year of Election.

United States—*Contd.*

1870. THE HON. DAVID AMES WELLS, D.C.L., LL.D., M.D., **Norwich, Conn.**
Economist. Late Special Commissioner of Revenue of the United States; Chairman of Commission for the Revision of Taxes of the State of New York; Lecturer on the Principles and Practice of Taxation, Harvard University, Cambridge, United States; Member of the Board of Arbitration of American Railways; President, National Board of Visitors of the U.S. Military Academy of West Point; President of the American Social Science Association, and of the American Free Trade League; Chairman in 1883 of the Department of Finance of the American Social Science Association; Corresponding Member of the Institute of France, to fill vacancy occasioned by the death of John Stuart Mill; Corresponding Member of the Academy "dei Lincei," Rome; Member of the American Academy of Arts and Sciences, Boston; Honorary Member of the Cobden Club; Gold Medallist "Exposition Universelle, France, 1889, Groupe de l'Economie Sociale."

1893. THE HON. CARROLL DAVIDSON WRIGHT, **Washington.**
Commissioner of the U.S. Department of Labour; late Chief of the Massachusetts Bureau of Statistics of Labour; President of the Association for the promotion of Profit Sharing; late President and now Vice-President of the American Social Science Association; Vice-President of the American Statistical Association; Member of the American and British Economic Associations, of the International Statistical Institute, and of several other learned Societies.

India.

1886. JAMES EDWARD O'CONOR, C.I.E., **Calcutta and Simla.**
Director-General of Statistics, Assistant Secretary with the Supreme Government, India, Department of Finance and Commerce.

Dominion of Canada.

1894. GEORGE JOHNSON, **Ottawa.**
Statistician, Department of Agriculture, Ottawa, Canada.

1877. DR. EDWARD YOUNG, A.M., Ph.D., **Windsor, Nova Scotia.**
Consul of the United States, formerly Chief of the Bureau of Statistics, United States of America: Member of the Geographical Society of Paris.

New South Wales.

Year of Election.

1893. TIMOTHY AUGUSTINE COGHLAN, **Sydney.**
Government Statistician of New South Wales and Registrar of Friendly Societies and Trade Unions; formerly Assistant Engineer for Harbours and Rivers.

1876. EDWARD GRANT WARD, J.P., **Sydney.**
Late Registrar-General; Chairman of Board of Land Titles Commissioners.

New Zealand.

1876. SIR JAMES HECTOR, K.C.M.G., M.D., F.R.S.S. L. and E., F.G.S. &c., **Wellington.**
Director of the Geological Survey, of the Meteorological Department, and of the New Zealand Institute, &c.

Tasmania.

1894. ROBERT MACKENZIE JOHNSTON, **Hobart.**
Registrar-General and Government Statistician; Fellow and Member of Council of the Royal Society of Tasmania; Member of Council and of Senate of the University of Tasmania; Fellow and Past President of Section F (*Economics* and *Statistics*) of the Australasian Association for the Advancement of Science; Fellow of the Royal Geographical Society of Australia; Honorary Foreign Corresponding Member of the Geological Society of Edinburgh; Fellow of the Linnean Society of London.

1876. EDWIN CRADOCK NOWELL, J.P., **Hobart.**
Clerk of Executive and Legislative Councils of Tasmania; late Government Statistician; Clerk to the Federal Council of Australasia in its four Sessions.

Victoria.

1858. WILLIAM HENRY ARCHER, K.C.P., K.S.G., F.I.A., F.L.S., &c., **Grace Park, Hawthorne, Melbourne.**
Barrister-at-Law.

Great Britain and Ireland.

1876. THE PRESIDENT (for the time being) OF THE MANCHESTER STATISTICAL SOCIETY, **63, Brown Street, Manchester.**

1876. THE PRESIDENT (for the time being) OF THE STATISTICAL AND SOCIAL INQUIRY SOCIETY OF IRELAND, **35, Molesworth Street, Dublin.**

NOTE.—The Executive Committee request that any inaccuracies in the foregoing List of HONORARY FELLOWS may be pointed out, and that all changes of address may be notified to the Secretary, so that delay in forwarding communications and the publications of the Society may be avoided.

ROYAL STATISTICAL SOCIETY.

Copy of Charter.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To all to whom these Presents shall come, Greeting:—

Whereas Our Right trusty and entirely beloved cousin, Henry, Third Marquess of Lansdowne, Knight of the Most Noble Order of the Garter, Charles Babbage, Fellow of the Royal Society, John Elliott Drinkwater, Master of Arts, Henry Hallam, Fellow of the Royal Society, the Reverend Richard Jones, Master of Arts, and others of Our loving subjects, did, in the year One thousand eight hundred and thirty-four, establish a Society to collect, arrange, digest and publish facts, illustrating the condition and prospects of society in its material, social, and moral relations; these facts being for the most part arranged in tabular forms and in accordance with the principles of the numerical method, and the same Society is now called or known by the name of "The "Statistical Society."

And Whereas it has been represented to Us that the same Society has, since its establishment, sedulously pursued such its proposed objects, and by its publications (including those of its transactions), and by promoting the discussion of legislative and other public measures from the statistical point of view, has greatly contributed to the progress of statistical and economical science.

And Whereas distinguished individuals in foreign countries, as well as many eminent British subjects, have availed themselves of the facilities offered by the same Society for communicating important information largely extending statistical knowledge; and the general interest now felt in Statistics has been greatly promoted and fostered by this Society.

And Whereas the same Society has, in aid of its objects, collected a large and valuable library of scientific works and charts, to which fresh accessions are constantly made; and the said Society has hitherto been supported by annual and other subscriptions and contributions to its funds, and has lately acquired leasehold premises in which the business of the said Society is carried on.

And Whereas in order to secure the property of the said Society, to extend its operations, and to give it its due position among the Scientific Institutions of Our kingdom, We have been besought to grant to Sir Rawson William Rawson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, and Companion of the Most Honourable Order of the Bath, and to those who now are Members of the said Society, or who shall from time to time be elected Fellows of the Royal Statistical Society hereby incorporated, Our Royal Charter of Incorporation for the purposes aforesaid.

1. **Now Know Ye** that We, being desirous of encouraging a design so laudable and salutary, of Our especial grace, certain knowledge and mere motion, have willed, granted, and declared and Do by these Presents, for Us, Our heirs and successors, will, grant, and declare that the said Sir Rawson William Rawson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, and Companion of the Most Honourable Order of the Bath, and such other of Our loving subjects as now are Members of the said Society, or shall from time to time be elected Fellows of "The Royal Statistical Society" hereby incorporated according to such regulations or bye laws as shall be hereafter framed or enacted, and their successors, shall for ever hereafter be by virtue of these presents one body politic and corporate, by the name of "**The Royal Statistical Society,**" and for the purposes aforesaid, and by the name aforesaid, shall have perpetual succession and a common seal, with full power and authority to alter, vary, break, and renew the same at their discretion, and by the same name to sue and be sued, implead and be impleaded, answer and be answered, unto and in every Court of Us, Our heirs and successors.

2. **The** Royal Statistical Society, in this Charter hereinafter called "The Society," may, notwithstanding the statutes of mortmain, take, purchase, hold and enjoy to them and their successors a hall, or house, and any such messuages or hereditaments of any tenure as may be necessary, for carrying out the purposes of the Society, but so that the yearly value thereof to be computed at the rack rent which might be gotten for the same at the time of the purchase or other acquisition, and including the site of the said hall, or house, do not exceed in the whole the sum of Two thousand pounds.

3. **There** shall be a Council of the Society, and the said Council and General Meetings of the Fellows to be held in accordance with this Our Charter shall, subject to the provisions of this Our Charter, have the entire management and direction of the concerns of the Society.

4. **There** shall be a President, Vice-Presidents, a Treasurer or Treasurers, and a Secretary or Secretaries of the Society. The Council shall consist of the President, Vice-Presidents, and not

less than twenty Councillors; and the Treasurer or Treasurers and the Secretary or Secretaries if honorary.

5. **The** several persons who were elected to be the President, Vice-Presidents, and Members of the Council of the Statistical Society at the Annual Meeting held in the month of June, One thousand eight hundred and eighty-six, shall form the first Council of the Society, and shall continue in office until the first Election of officers is made under these presents as hereinafter provided.

6. **General** Meetings of the Fellows of the Society may be held from time to time, and at least one General Meeting shall be held in each year. Every General Meeting may be adjourned, subject to the provisions of the Bye Laws. The following business may be transacted by a General Meeting, viz.:—

(*a*.) The Election of the President, Vice-Presidents, Treasurer or Treasurers, Secretary or Secretaries, and other Members of the Council of the Society.

(*b*.) The making, repeal, or amendment of Bye Laws.

(*c*.) The passing of any proper resolution respecting the affairs of the Society.

7. **Bye Laws** of the Society may be made for the following purposes, and subject to the following conditions, viz.:—

(*a*.) For prescribing the qualification and condition of tenure of office of the President; the number, qualifications, functions, and conditions of tenure of office of the Vice-Presidents, Treasurers, Secretaries, and Members of Council, and Officers of the Society; for making regulations with respect to General Meetings and Meetings of the Council and proceedings thereat, and for the election of any persons to be Honorary Fellows or Associates of the Society, and defining their privileges (but such persons, if elected, shall not be Members of the Corporation), and for making regulations respecting the making, repeal and amendment of Bye Laws, and generally for the government of the Society and the management of its property and affairs.

(*b*.) The first Bye Laws shall be made at the first General Meeting to be held under these presents, and shall (amongst other things) prescribe the time for holding the first election of officers under these presents.

8. **The** General Meetings and adjourned General Meetings of the Society shall take place (subject to the rules or bye laws of the Society, and to any power of convening or demanding a

Special General Meeting thereby given) at such times and places as may be fixed by the Council.

9. **The** existing rules of the Statistical Society, so far as not inconsistent with these presents, shall be in force as the Bye Laws of the Society until the first Bye Laws to be made under these presents shall come into operation.

10. **Subject** to these presents and the Bye Laws of the Society for the time being, the Council shall have the sole management of the income, funds, and property of the Society, and may manage and superintend all other affairs of the Society, and appoint and dismiss at their pleasure all salaried and other officers, attendants, and servants as they may think fit, and may do all such things as shall appear to them necessary or expedient for giving effect to the objects of the Society.

11. **The** Council shall once in every year present to a General Meeting a report of the proceedings of the Society, together with a statement of the receipts and expenditure, and of the financial position of the Society, and every Fellow of the Society may, at reasonable times to be fixed by the Council, examine the accounts of the Society.

12. **The** Council may, with the approval of a General Meeting, from time to time appoint fit persons to be Trustees of any part of the real or personal property of the Society, and may make or direct any transfer of such property so placed in trust necessary for the purposes of the trust, or may, at their discretion, take in the corporate name of the Society conveyances or transfers of any property capable of being held in that name. Provided that no sale, mortgage, incumbrance, or other disposition of any hereditaments belonging to the Society shall be made unless with the approval of a General Meeting.

13. **No** Rule, Bye Law, Resolution, or other proceeding shall be made or had by the Society, or any meeting thereof, or by the Council, contrary to the general scope or true intent and meaning of this Our Charter, or the laws or statutes of Our Realm, and anything done contrary to this present clause shall be void.

In Witness whereof We have caused these Our Letters to be made Patent.

Witness Ourself, at Westminster, the thirty-first day of January, in the fiftieth year of Our Reign.

By Warrant under the Queen's Sign Manual,

(L. S.)

MUIR MACKENZIE.

ROYAL STATISTICAL SOCIETY.

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RULES AND BYE-LAWS OF THE ROYAL STATISTICAL SOCIETY.

Objects of the Society.

1. The objects of the Royal Statistical Society are to collect, arrange, digest and publish facts, illustrating the condition and prospects of society in its material, social and moral relations; these facts being for the most part arranged in tabular forms and in accordance with the principles of the numerical method.

The Society collects new materials, condenses, arranges, and publishes those already existing, whether unpublished or published in diffuse and expensive forms in the English or in any foreign language, and promotes the discussion of legislative and other public measures from the statistical point of view. These discussions form portions of the published Transactions of the Society.

Constitution of the Society.

2. The Society consists of Fellows and Honorary Fellows, elected in the manner hereinafter described.

Number of Fellows and Honorary Fellows.

3. The number of Fellows is unlimited. Foreigners or British subjects of distinction residing out of the United Kingdom may be admitted as Honorary Fellows, of whom the number shall not be more than seventy at any one time.

Proposal of Fellows.

4. Every Candidate for admission as a Fellow of the Society shall be proposed by two or more Fellows, who shall certify from their personal knowledge of him or of his works, that he is a fit person to be admitted a Fellow of the Society. Every such certificate having been read and approved of at a Meeting of the Council, shall be suspended in the office of the Society until the following Ordinary Meeting, at which the vote shall be taken.

Election of Fellows.

5. In the election of Fellows, the votes shall be taken by ballot. No person shall be admitted unless at least sixteen Fellows vote, and unless he have in his favour three-fourths of the Fellows voting.

Admission of Fellows.

6. Every Fellow elect is required to take the earliest opportunity of presenting himself for admission at an Ordinary Meeting of the Society.

The manner of admission shall be thus:—

Immediately after the reading of the minutes, the Fellow elect, having first paid his subscription for the current year or his composition, shall sign the obligation contained in the Fellowship-book, to the effect following:—

"We, who have underwritten our "names, do hereby undertake, each for "himself, that we will endeavour to "further the good of the Royal Statis-"tical Society for improving Statistical "Knowledge, and the ends for which "the same has been founded; that we "will be present at the Meetings of the "Society as often as conveniently we "can, and that we will keep and fulfil "the Bye-laws and Orders of this "Society: provided that whensoever "any one of us shall make known, by "writing under his hand, to the Secre-"taries for the time being, that he "desires to withdraw from the Society, "he shall be free thenceforward from "this obligation."

Whereon the President, taking him by the hand, shall say,—'By the "authority, and in the name of the "Royal Statistical Society, I do admit "you a Fellow thereof."

Upon their admission Fellows shall have the right of attaching to their names the letters F.S.S., but not in connection with any trading or business advertisement other than the publication of any book or literary notice.

Admission of Honorary Fellows.

7. There shall be Two Meetings of the Society in the year, on such days as shall be hereafter fixed by the Council, at which Honorary Fellows may be elected.

No Honorary Fellow can be recommended for election but by the Council. At any Meeting of the Council any Member thereof may propose a Foreigner or British subject of distinction residing out of the United Kingdom, delivering at the same time a written statement of the qualifications of, offices held by, and published works of, the person proposed; and ten days' notice at least shall be given to every Member of the Council, of the day on which the Council will vote by ballot on the question whether they will recommend to the Society the election of the person proposed. No such recommendation to the Society shall be adopted unless at least three-fourths of the votes are in favour thereof.

Notice of the recommendation shall be given from the chair at the Meeting of the Society next preceding that at which the vote shall be taken thereon. No person shall be elected an Honorary Fellow unless sixteen Fellows vote and three-fourths of the Fellows voting be in his favour.

The Council shall have power to elect as Honorary Fellows, the Presidents for the time being of the Statistical Societies of Dublin, Manchester, and Paris, and the President of any other Statistical Society at home or abroad.

Payments by Fellows.

8. Every Fellow of the Society shall pay a yearly subscription of Two Guineas, or may at any time compound for his future yearly payments by paying at once the sum of Twenty Guineas,* unless the Annual Subscription or Composition Fee shall be remitted by the Council; provided that the number of Fellows whose Annual Subscription or Composition Fee shall have been thus remitted, do not exceed five at any one time.

Defaulters.—Withdrawal of Fellows.

9. All yearly payments are due in advance on the 1st of January, and if any Fellow of the Society have not paid his subscription before the 1st of July, he shall be applied to in writing by the Secretaries, and if the same be not paid before the 1st of January of the second year, a written application shall again be made by the Secretaries, and the Fellow in arrear shall cease to receive the Society's publications, and shall not be entitled to any of the privileges of the Society until such arrears are paid; and if the subscription be not discharged before the 1st of February of the second year, the name of the Fellow thus in arrear shall be exhibited on a card suspended in the office of the Society; and if, at the next Annual General Meeting, the amount still remain unpaid, the defaulter shall, unless otherwise authorised by the Council, be announced to be no longer a Fellow of the Society, the reason for the same being at the same time assigned. No Fellow of the Society can withdraw his name from the Society's books, unless all arrears be paid; and no resignation will be deemed valid unless a written notice thereof be communicated to the Secretaries. No Fellow shall be entitled to vote at any Meeting of the Society until he shall have paid his subscription for the current year.

Expulsion of Fellows.

10. If any Fellow of the Society, or any Honorary Fellow, shall so demean himself that it would be for the dishonour of the Society that he longer continue to be a Fellow or Honorary Fellow thereof, the Council shall take the matter into consideration; and if the majority of the Members of the Council present at some Meeting (of which and of the matter in hand such Fellow or Honorary Fellow, and every Member of the Council, shall have due notice) shall decide by ballot to recommend that such Fellow or Honorary Fellow be expelled from the Society, the President shall at its next Ordinary Meeting announce to the Society the recommendation of the Council, and at the following Meeting the question shall be decided by ballot, and if at least three-fourths of the

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* Cheques should be made payable to "The Royal Statistical Society," and crossed "Messrs. "Drummond and Co."

number voting are in favour of the expulsion, the President shall forthwith cancel the name in the Fellowship-book, and shall say,—

"By the authority and in the name "of the Royal Statistical Society, I do "declare that A. B. (naming him) is no "longer a Fellow (or Honorary Fellow) "thereof."

And such Fellow or Honorary Fellow shall thereupon cease to be of the Society.

Trustees.

11. The property of the Society may be vested in three Trustees, chosen by the Fellows. The Trustees are eligible to any other offices in the Society.

President, Council, and Officers.

12. The Council shall consist of a President and thirty Members, together with the Honorary Vice-Presidents.

From the Council shall be chosen four Vice-Presidents, a Treasurer, the Honorary Secretaries, and a Foreign Secretary, who may be one of the Honorary Secretaries. The former Presidents who are continuing Fellows of the Society shall be Honorary Vice-Presidents. Any five of the Council shall be a quorum.

Election of President and Officers.

13. The President, Members of Council, Treasurer, and Honorary and Foreign Secretaries shall be chosen annually by the Fellows at the Annual General Meeting.

The Vice-Presidents shall be chosen annually from the Council by the President.

The President shall not be eligible for the office more than two years in succession.

Six Fellows, at least, who were not of the Council of the previous year, shall be annually elected; and of the Members retiring three at least shall be those who have served longest continuously on the Council, unless they hold office as Treasurer or Honorary or Foreign Secretary.

Nomination of President, Council, and Officers.

14. The Council shall, previously to the Annual General Meeting, nominate, by ballot, the Fellows whom they recommend to be the next President and Council of the Society. They shall also recommend for election a Treasurer and the Secretaries (in accordance with Rule 12). Notice shall be sent to every Fellow whose residence is known to be within the limits of the metropolitan post, at least a fortnight before the Annual General Meeting, of the names of Fellows recommended by the Council.

Extraordinary Vacancies.

15. On any extraordinary vacancy occurring of the Office of President, or other Officer of the Society, the Honorary Secretaries shall summon the Council with as little delay as possible, and a majority of the Council, thereupon meeting in their usual place, shall, by ballot, and by a majority of those present, choose a new President, or other Officer of the Society, to be so until the next Annual General Meeting.

Committees.

16. The Council shall have power to appoint Committees of Fellows and also an Executive Committee of their own body. The Committees shall report their proceedings to the Council. No report shall be communicated to the Society except by the Council.

Auditors.

17. At the first Ordinary Meeting of each year, the Fellows shall choose two Fellows, not being Members of the Council, as Auditors, who, with one of the Council, chosen by the Council, shall audit the Treasurer's accounts for the past year, and report thereon to the Society, which report shall be presented at the Ordinary Meeting in February. The Auditors shall be empowered to examine into the particulars of all expenditure of the funds of the Society and may report their opinion upon any part of it.

Meetings Ordinary and General.

18. The Ordinary Meetings of the Society shall be held monthly, or oftener, during the Session, which shall be from the 1st of November to the 1st of July in each year, both inclusive, on such days and at such hours as the Council shall declare. The Annual General Meeting shall be held on such day in the month of June of each year as shall be appointed by the Council for the time being.

Business of Ordinary Meetings.

19. The business of the Ordinary Meetings shall be to elect and admit Fellows, to read and hear reports, letters, and papers on subjects interesting to the Society. Nothing relating to the bye-laws or management of the Society shall be discussed at the Ordinary Meetings, except that the Auditors' Report shall be presented at the Ordinary Meeting in February, and that the Minutes of the Annual General Meeting, and of every Special General Meeting, shall be submitted for confirmation at the next Ordinary Meeting after the day of such Annual or Special General Meeting. Strangers may be introduced to the Ordinary Meetings, by any Fellow, with the leave of the President, Vice-President, or other Fellow presiding at the Meeting.

Business of Annual General Meeting.

20. The business of the Annual General Meeting shall be to elect the Officers of the Society, and to discuss questions on its bye-laws and management. No Fellow or Honorary Fellow shall be proposed at the Annual General Meeting. No Fellow shall propose any alteration of the rules or bye-laws of the Society at the Annual General Meeting, unless after three weeks' notice thereof given in writing to the Council, but amendments to any motion may be brought forward without notice, so that they relate to the same subject as the motion. The Council shall give fourteen days' notice to every Fellow of all questions of which such notice shall have been given to them.

Special General Meetings.

21. The Council may, at any time, call a Special General Meeting of the Society when it appears to them necessary. Any twenty Fellows may require a Special General Meeting to be called, by notice in writing signed by them, delivered to one of the Secretaries, specifying the questions to be moved. The Council shall, within one week of such notice, appoint a day for such Special General Meeting, and shall give at least one week's notice of every Special General Meeting, and of the questions to be moved, to every Fellow within the limits of the metropolitan post, whose residence is known. No business shall be brought forward at any Special General Meeting other than that specified in the notice convening the same.

Duties of the President.

22. The President shall preside at all Meetings of the Society, Council, and Committees which he shall attend, and in case of an equality of votes, shall have a second or casting vote. He shall sign all diplomas of admission of Honorary Fellows. He shall admit and expel Fellows and Honorary Fellows, according to the bye-laws of the Society.

Duties of the Treasurer.

23. The Treasurer shall receive all moneys due to, and pay all moneys owing by, the Society, and shall keep an account of his receipts and payments. No sum exceeding Ten Pounds shall be paid but by order of the Council, excepting always any lawful demand for rates or taxes. The Treasurer shall invest the moneys of the Society in such manner as the Council shall from time to time direct.

Duties of the Honorary Secretaries.

24. The Honorary Secretaries shall, under the control of the Council, conduct the correspondence of the Society; they or one of them shall attend all Meetings of the Society and Council, and shall duly record the Minutes of the Proceedings. They shall issue the requisite notices, and read such papers to the Society as the Council may direct.

Powers of the Vice-Presidents.

25. A Vice-President, whether Honorary or nominated, in the chair, shall act with the power of the President in presiding and voting at any Meeting of the Society or Council, and in admitting Fellows; but no Vice-President shall be empowered to sign diplomas of admission of Honorary Fellows, or to expel Fellows or Honorary Fellows. In the absence of the President and Vice-Presidents, any Member of Council may be called upon by the Fellows then present, to preside at an Ordinary or Council Meeting, with the same power as a Vice-President.

Powers of the Council.

26. The Council shall have control over the papers and funds of the Society, and may, as they shall see fit, direct the publication of papers and the expenditure of the funds, in accordance with the provisions of the Charter.

27. The Council shall be empowered at any time to frame Regulations not inconsistent with these bye-laws, which shall be and remain in force until the next Annual General Meeting, at which they shall be either affirmed or annulled; but no Council shall have power to renew Regulations which have once been disapproved at an Annual General Meeting.

28. The Council shall have the custody of the Common Seal. The Common Seal shall not be affixed to any instrument, deed, or other document, except by order of the Council and in the presence of at least two Members of the Council and in accordance with such other regulations as the Council shall from time to time prescribe. The fact of the seal having been so affixed shall be entered on the minutes of the Council.

29. No Dividend, Gift, Division, or Bonus in money shall be made by the Society, unto or between any of the Fellows or Members, except as hereinafter provided.

30. The Council shall publish a Journal of the Transactions of the Society, and such other Statistical Publications as they may determine upon, and may from time to time pay such sums to Editors and their assistants, whether Fellows of the Society or not, as may be deemed advisable.

31. All communications to the Society are the property of the Society, unless the Council allow the right of property to be specially reserved by the Contributors.

REGULATIONS OF THE LIBRARY.

1. The Library and the Reading Room are open daily for the use of Fellows from 10 a.m. till 5 p.m., except on Saturdays, when they are closed at 2 p.m.

2. Fellows of the Society are permitted to take out Books on making personal application, or by letter addressed to the Librarian, all expenses for carriage being paid by the Fellows.

3. Fellows are not to keep any books longer than one month. Any Fellow detaining a book for more than a month shall not be permitted to take another from the Library until the book detained shall have been returned.

4. Scientific Journals and Periodicals are not circulated until the volumes are completed and bound.

5. Cyclopædias and works of reference are not circulated, but may be lent on the written order of an Honorary Secretary for a period not exceeding *seven* days. The Assistant Secretary or Librarian is allowed at his discretion to lend works of reference for a period not exceeding *three* days, reporting at the same time to the Honorary Secretaries. If works so lent be not returned within the specified time, the borrower shall incur a fine of one shilling per day per volume for each day they are detained beyond the time specified.

6. Any Fellow damaging or losing a book, either replaces the work, or pays a fine equivalent to its value.

7. Books taken from the shelves for reference, are *not* to be replaced, but must be laid on the Library table.

8. The Librarian shall report to the Council any infringement of these regulations, and lay upon the table at each regular Meeting (*a*) a List of any "Works of Reference" that may have been borrowed, and (*b*) a List of Books that have been out more than a month.

DONORS TO THE LIBRARY.

During the Year (ending 15th September) 1895.

(a) Foreign Countries.

Argentine Republic—
General Statistical Bureau.
National Health Department.
Buenos Ayres, Provincial and Municipal Statistical Bureaus.
Argentine Geographical Institute.

Austria and Hungary—
Central Statistical Commission.
Ministry of Agriculture.
Statistical Department of the Ministry of Commerce.
Bohemian Statistical Bureau.
Hungarian Statistical Bureau.
Brünn Chamber of Commerce.
Budapest Statistical Bureau.
Prague Statistical Bureau.

Belgium—
Bureau of General Statistics.
Administration of Mines.
Brussels Bureau of Hygiene.
Bruges, The Burgomaster.
Hasselt, The Burgomaster.
Royal Academy of Sciences.

Bulgaria. Statistical Bureau.

Chili. Department of Commercial Statistics.

China—
Imperial Maritime Customs.
Royal Asiatic Society's Branch.

Denmark—
Royal Statistical Bureau.
Political Economy Society.

Egypt—
Department of Public Health.
Director-General of Customs.
„ Post Office.
Ministry of Finance.
Egyptian Institute, Cairo.

France—
Bureau of General Statistics.
Director-General of Customs.
French Labour Department.
Ministry of Agriculture.
„ Commerce.
„ Finance.
„ The Interior.
„ Justice.
„ Public Works.
Paris Statistical Bureau.
Economiste Français, The Editor.
Journal des Economistes, The Editor.
Monde Economique, The Editor.
La Réforme Sociale, The Editor.
Rentier, Le, The Editor, Paris.
Polybiblion, Revue Bibliographique Universelle, The Editor.
Revue d'Economie Politique, The Editor, Paris.
Revue Géographique Internationale, The Editor, Paris.
Statistical Society of Paris.
Free School of Political Science.

Germany—
Imperial Health Bureau.
„ Judicial Bureau.
„ Statistical Bureau.
German Consul-General, London.

During the Year 1894-95—*Contd.*

(a) Foreign Countries—*Contd.*

Germany—Contd.
Prussian Royal Statistical Bureau.
Saxony Royal Statistical Bureau.
Berlin Statistical Bureau.
Dresden Statistical Bureau.
Frankfort Chamber of Commerce.
„ Statistical Bureau.
Görlitz Statistical Bureau.
Hamburg Statistical Bureau.
Geographical and Statistical Society of Frankfort.
Allgemeines Statistisches Archiv, The Editor.
Archiv für Soziale Gesetzgebung, &c., The Editor. Tübingen.
Jahrbuch für Gesetzgebung, &c., The Editor.
Jahrbücher für Nationalökonomie und Statistik, The Editor.
Zeitschrift für Litteratur, &c., The Editor.
Zeitschrift für die gesamte Staatswissenschaft, The Editor.

Greece. Statistical Bureau.

Guatemala. Statistical Bureau.

Italy—
Director-General of Statistics.
„ Agriculture.
„ Customs.
Economista, The Editor, Florence.
Giornale degli Economisti, The Editor, Bologna.

Japan—
Agricultural and Commercial Department.
Bureau of General Statistics.
Central Sanitary Bureau.
Tokyo Statistical Society.
„ The Prefect of.

Mexico—
Mexican Legation, London.

Mexico—Contd.
Statistical Bureau.
Geographical and Statistical Society.

Netherlands—
Central Statistical Commission.
Department of the Interior.
Post Office Savings Banks Department.

Portugal. General Statistical Bureau.

Roumania. Statistical Bureau.

Russia—
Agricultural Department.
Central Statistical Committee.
Controller of the Empire.
Customs Statistical Bureau.
Ministry of Finance.
Bulletin russe de Statistique financière, The Editor.
Finland Geographical Society.
„ Statistical Bureau.

Servia. Statistical Bureau.

Spain—
Director-General of Customs.
Geographical & Stat. Institute.
„ Society of Madrid

Sweden. Central Statistical Bureau.

Norway—
Central Statistical Bureau.
Christiania Statistical Bureau.
„ Health Department.

Switzerland—
Federal Assurance Bureau.
„ Statistical Bureau.
„ Department of Customs.
Statistical Society.

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Employer and Employed, The Publisher.

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